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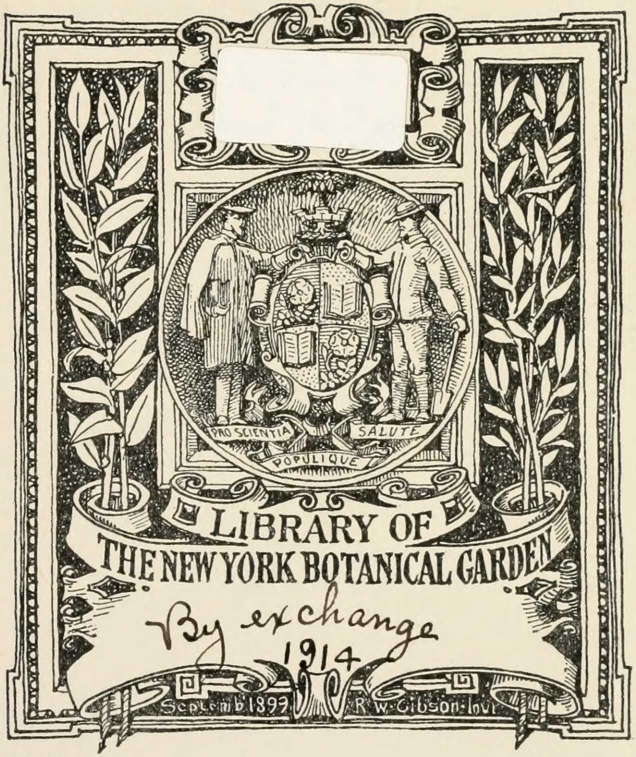
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FORTY-SIXTH ANNUAL REPORT

Missouri State Board of Agriculture

A Record of the Work for the Year 1913

Also Report of Missouri Farmers' Week, 1914, Association Meetings,
Farm Statistics and Other Information and Papers Relating
to Agriculture and Its Allied Industries

PUBLISHED 1914

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OFFICERS OF THE STATE BOARD OF AGRICULTURE.

President—P. P. Lewis, Crescent.
Vice-President—W. R. Wilkinson, St. Louis.
Secretary—Jewell Mayes, Columbia.
Assistant-Secretary—W. L. Nelson, Columbia.
Treasurer—W. A. Bright, Columbia.
Institute Lecturer—J. Kelly Wright, Columbia.
Institute Lecturer—Miss Bab Bell, Columbia.
State Veterinarian—Dr. D. F. Luckey, Columbia.
Apiary Inspector—M. E. Darby, Springfield.
Dairy Commissioner—E. G. Bennett, Carthage.

EX OFFICIO MEMBERS.

Governor Elliott W. Major.
Superintendent of Schools W. P. Evans.
Dean Agricultural College F. B. Mumford.

CORPORATE MEMBERS.

(Term expires July 20, 1914.)

Cong. District	Name.	Residence.	County.
2	John H. Brayton	Paris	Monroe.
3	H. C. Duncan	Osborn	DeKalb.
5	T. J. Hedrick	Buckner	Jackson.
13	E. E. Swink	Farmington	St. Francois.
14	C. M. Barnes	Marston	New Madrid.
16	A. T. Nelson	Lebanon	Laclede.

(Term expires July 20, 1915.)

1	E. L. Newlon	Lewistown	Lewis.
4	Chas. D. Bellows	Maryville	Nodaway.
7	N. H. Gentry	Sedalia	Pettis.
8	W. A. Dallmeyer	Jefferson City	Cole.
15	John Parker	Carthage	Jasper.

(Term expires July 20, 1916.)

6	Mack V. Thralls	Urich	Henry.
9	John J. Wakefield	Mexico	Audrain.
10	P. P. Lewis	Crescent	St. Louis.
11	Chris Hilke	St. Louis.	
12	W. R. Wilkinson	St. Louis.	

JUL 13 1914

OFFICERS OF STATE FAIR DIRECTORY.

President—W. A. Dallmeyer, Jefferson City.
Vice-President—E. E. Swink, Farmington.
Secretary—John T. Stinson, Sedalia.
Treasurer—W. W. Barrett, Sedalia.

STATE VETERINARIAN AND DEPUTIES.

Name.	City or town.	County.
D. F. Luckey, State Veterinarian	Columbia	Boone.
Berry, W. F	Joplin	Jasper.
Black, Samuel	Chillicothe	Livingston.
Bradley, Horace	Windsor	Henry.
Brainerd, E	Memphis	Scotland.
Brown, L. D	Hamilton	Caldwell.
Cahill, F. M., 224 South Seventh street	St. Joseph	Buchanan.
Carver, H. C	Higginsville	Lafayette.
Cheatham, C. L	Clinton	Henry.
Chenoweth, J. W	Albany	Gentry.
Cissel, F. L	Perryville	Perry.
Clark, L. G	Nevada	Vernon.
Cline, J. E	Lamar	Barton.
Coughlin, J. D	Edina	Knox.
Crites, D. E	Jackson	Cape Girardeau.
Cullison, James	Charleston	Mississippi.
Davis, B. C	Carrollton	Carroll.
Donohew, A. C	Boonville	Cooper.
Eisenhower, J. M	Schell City	Vernon.
Emonts, Jos	O'Fallon	St. Charles.
Dudgeon, E. L	Platte City	Platte.
Gaines, C. H	Chilhowee	Johnson.
George, J. W	Harrisonville	Cass.
Glover, A. D	Newark	Knox.
Gregory, P. H	St. Charles	St. Charles.
Grigsby, Paul S	Louisiana	Pike.
Hendy, E. M	Jefferson City	Cole.
Hershberger, F. C	Hamilton	Caldwell.
Hook, Chas. N	Braymer	Caldwell.
Houser, W. J	Carthage	Jasper.
Humphreys, J. C	Laredo	Grundy.
James, Clyde N	Belton	Cass.
James, A. W	Cameron	Clinton.
Johnston, E. J	Excelsior Springs	Clay.
Kinsley, A. T., 1336 East Fifteenth St.	Kansas City	Jackson.
Lash, O. U	Moberly	Randolph.
Leach, G. H	Maryville	Nodaway.
Leber, G. W	Pacific	Franklin.
Lester, W. S	Bethany	Harrison.
Lopp, W. J	Sedalia	Pettis.
Love, R. B	Springfield	Greene.
Lynch, Rex	Pleasant Hill	Cass.
McConnell, H. M	Independence	Jackson.

McElroy, J. H	Grant City	Worth.
McIntyre, Geo. W	Mexico	Audrain.
McLevey, J. H	Warrensburg	Johnson.
McDonald, Wm. A	Aldrich	Polk.
Maitland, E. P	LaPlata	Macon.
Martin, W. E	Perry	Ralls.
Miller, B. M	California	Moniteau.
Morgan, D. B	Neosho	Newton.
Muir, Fred B	Lees Summit	Jackson.
Munn, A. J	Fayette	Howard.
Murphy, Olin T	Kahoka	Clark.
Neil, W. E	Kirksville	Adair.
O'Brien, F. W	Hannibal	Marion.
Old, Claude T	Malden	Dunklin.
Parker, W. A	Eureka	St. Louis.
Parmenter, Glee	Harris	Sullivan.
Peacock, E. E	Fairfax	Atchison.
Pearson, Jas. R	Pierce City	Lawrence.
Pittman, G. R	Mount Vernon	Lawrence.
Pittman, August	Troy	Lincoln.
Poage, R. P	Shelbina	Shelby.
Riley, J. W	Wright City	Warren.
Russell, W. N	West Plains	Howell.
Rutherford, F. W	Maysville	DeKalb.
Scott, J. H	Princeton	Mercer.
Scott, C. N	Mound City	Holt.
Sebaugh, H. J	Farmington	St. Francois.
Seiple, J. R	Poplar Bluff	Butler.
Shikles, E. A	Dearborn	Platte.
Shikles, W. C	Plattsburg	Clinton.
Slater, J. H	Richmond	Ray.
Smiley, T. M	Liberty	Clay.
Smith, G. D	Lockwood	Dade.
Smith, Stanley	Columbia	Boone.
Sorber, W. C., 3535 N. Grand avenue	St. Louis city.	
Starr, F. M	Odessa	Lafayette.
Stuart, Oscar	Paris	Monroe.
Tipton, Thos. B	Hume	Bates.
Treadway, C. A	Canton	Lewis.
Troxel, B. M	Ridgeway	Harrison.
Tuck, H. C	Morrisville	Polk.
Utley, H. C	Trenton	Grundy.
Van Antwerp, E. A	Brookfield	Linn.
Ward, H. C	Fulton	Callaway.
Welch, W. B	Marshall	Saline.
Wilson, R. J	Bolivar	Polk.
White, T. E	Sedalia	Pettis.
Wiedmer, F. R	Savannah	Andrew.
Wolfe, F. A	Linneus	Linn.
Woods, J. K	Huntsville	Randolph.
Wright, J. L	Salisbury	Chariton.

ASSOCIATE ORGANIZATIONS.

MISSOURI CORN GROWERS' ASSOCIATION.

President—H. G. Windsor, Boonville.
Secretary-Treasurer—C. B. Hutchison, Columbia.
Assistant Secretary-Treasurer—F. L. Bentley, Columbia.
District Vice-President—W. C. Hutchison, Jamesport.
District Vice-President—A. White, Jr., Palmyra.
District Vice-President—E. L. Hughes, Glasgow.
District Vice-President—Simon Baumgartner, Pierce City.
District Vice-President—Maurice McCauley, Doniphan.

MISSOURI FARM MANAGEMENT ASSOCIATION.

President—J. Ed. Hall, Lamonte.
Vice-President—Ollie Davis, Wellsville.
Secretary-Treasurer—R. S. Besse, Columbia.
Advisory Board—D. H. Doane, Columbia; F. B. Mumford, Columbia; W. P. Dysart, Columbia.

MISSOURI CATTLE, SWINE AND SHEEP FEEDERS' ASSOCIATION.

President—Dr. A. W. Nelson, Bunceton.
First Vice-President—C. E. Yancey, Liberty.
Second Vice-President—G. V. Sneed, Sedalia.
Secretary-Treasurer—H. O. Allison, Columbia.

MISSOURI WOMEN FARMERS' CLUB.

President—Miss Pearle Mitchell, Columbia.
Vice-President—Mrs. Rosa Russell Ingles, Columbia.
Secretary-Treasurer—Mrs. Maud Griffith Woods, Harrisonville.

MISSOURI HOME MAKERS' CONFERENCE ASSOCIATION

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First Vice-President—Mrs. J. Ed Hall, Lamonte.
Second Vice-President—Miss Louise Stanley, Columbia.
Secretary (Corresponding)—Miss Bab Bell, Columbia.
Secretary (Recording)—Miss Pearle Mitchell, Rocheport,
Treasurer—Mrs. Cora Chapin, Appleton City.

MISSOURI ASSOCIATION OF COUNTY AND DISTRICT FAIR MANAGERS.

President—A. R. McComas, Sturgeon.
Vice-President—J. W. McDermott, Kahoka.
Treasurer—B. E. Hatton, Columbia.
Secretary—E. A. Trowbridge, Columbia.

MISSOURI STATE DAIRY ASSOCIATION.

President—Marshall Gordon, Columbia.
First Vice-President—C. W. Kent, Kansas City.
Second Vice-President—O. O. Harlan, Marionville.
Treasurer—Rudolph Miller, Macon.
Secretary—P. M. Brandt, Columbia.

MISSOURI DRAFT HORSE BREEDERS' ASSOCIATION.

President—J. F. Roelofson, Maryville.
Vice-President—Wilbur McIlroy, Louisiana.
Secretary-Treasurer—E. A. Trowbridge, Columbia.

MISSOURI SADDLE HORSE BREEDERS' ASSOCIATION.

President—Jas. Houchin, Jefferson City.
Vice-President—E. A. Trowbridge, Columbia.
Secretary—Rufus Jackson, Mexico.
Treasurer—E. S. Stewart, Sturgeon.

MISSOURI COUNTRY LIFE CONFERENCE.

President—Paul Culver, Gower.
Vice-President—H. E. Books, Fulton.
Secretary—W. L. Nelson, Columbia.
Treasurer—M. F. Miller, Columbia.

MISSOURI SHEEP BREEDERS' ASSOCIATION.

President—E. B. Wilson, Stanberry.
Vice-President—Lyle Atkins, Denton.
Vice-President—W. D. Ashburn, Farmington.
Vice-President—J. M. Grigsby, Paris.
Vice-President—W. J. Shores, Clark.
Secretary-Treasurer—H. Hackedorn, Columbia.

MISSOURI DUROC-JERSEY BREEDERS' ASSOCIATION.

President—Green McFarland, Sedalia.
Vice-President—Chas. L. Taylor, Olean.
Secretary—R. L. Hill, Columbia.
Treasurer—Geo. E. Thomson, Columbia.
Directors—C. G. Starr, Centralia; Edward Sheley, New Bloomfield; A. White, Jr., Palmyra.

LETTER OF TRANSMITTAL.

State Board of Agriculture, Office of the Secretary,
Columbia, Mo., March 18, 1914.

To Honorable Elliott W. Major, Governor of Missouri:

Sir—I have the honor to transmit to you a report of the State Board of Agriculture for the year 1913, including the work of the State Veterinarian, State Dairy Commissioner and State Apiary Inspector.

Very truly yours,
JEWELL MAYES, Secretary.

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The Missouri State Board of Agriculture.

NEW MEMBERS AND OFFICERS.

In the forty-fourth annual report of this Board brief sketches of the corporate and ex officio members and of the various officers and employes were given. Last year sketches of the new members of the Board were published. Following that plan and in order that the people may know more of those who serve them as members or officers of the Board, something concerning the new members, officers and employes is given this year.

Jewell Mayes (Democrat), Secretary of the Missouri State Board of Agriculture.—Born on February 15, 1873, at the Mayes farm near Knoxville, Ray county, Missouri, son of Wiley Mayes, Jr., and Sina Stephenson Mayes. His grandfather, Wiley Mayes, Sr., came from Tennessee and settled in Knoxville township in 1829. His mother's people came from Kentucky to Clay county in 1815. His father died in 1880, and the widow lives with the subject of this sketch, her only son. On August 10, 1904, he married Miss Edith Frances Martin, daughter of John and Stella Mar-

JEWELL MAYES, Secretary.

tin, and granddaughter of Rev. O. D. Allen of Kansas City. They have one son, Martin, a lad in his ninth year. Owns the Mayes farm in Ray county, a portion of which has been in the family for the third generation. Is publisher of the Richmond (Mo.) Missourian, and since 1898 has been a writer on farm life subjects, and in 1912 was publicity secretary of the Missouri Anti-Single Tax League and is now state secretary of that organization.

Christopher Hilke.

Christopher Hilke, Eleventh district (Democrat), 1515 Bremen avenue, St. Louis.—Born in Westphalia, Germany, October 7, 1850. Came to Missouri September 28, 1865. Was educated in the parochial schools of Westphalia. Was married May 2, 1876, his wife being Miss Margaret Wiegmann. They have four daughters and two sons. Mr. Hilke is a member of the Catholic Church. He was appointed a member of the State Board of Agriculture July 17, 1913. Is a prominent hay and grain merchant of St. Louis.

J. J. Wakefield.

J. J. Wakefield, Ninth district (Democrat), Mexico, R. F. D. No. 2.—Born in Brooke county, West Virginia, November 10, 1863, but has resided in Audrain county, Missouri, since March 2, 1866. Was educated in the schools of this county. Was married in 1897, his wife being Miss Laura F. McCue. They have one child. Mr. Wakefield was appointed a member of the State Board of Agriculture in July, 1913. He served as highway engineer of Audrain county from January, 1908, to January, 1911. He has always taken an active interest in road and school work in his home district. He is engaged in general farming, including the breeding and feeding of live stock. He is also an extensive grower of corn, taking much interest in improved corn. Part of the farm now owned by Mr. Wakefield was settled by his father in 1868.

Mack V. Thralls.

Mack V. Thralls, Sixth district (Democrat), Urich.—Born in Linn county, Kansas, September 11, 1868. Came to Missouri in 1874, and resided in St. Clair county, near Appleton City, until 1893. Was educated in the public schools and the Appleton City Academy. Was married in 1896, his wife being Miss Cora Miller. They have two children, a daughter and a son. Mr. Thralls was for twenty years editor of the Urich Herald. He was a member of the Forty-fourth General Assembly of the State of Missouri, representing Henry county. For twenty years he was clerk of the public school board of Urich and for fifteen years clerk of the city of Urich. He has always taken a prominent part in lodge and church work. Is a member of the Baptist church and has served as moderator of the Tebo Baptist Association. Was in charge of the Henry county agricultural exhibit at the Missouri State Fair in 1911 and 1912 and had been appointed to same position for 1913, but resigned when appointed member of the Board of Agriculture and when he was named as director in charge of agricultural hall. Since retiring from active newspaper work he has devoted his time to supervising his farm.

E. G. Bennett.

Eugene G. Bennett, State Dairy Commissioner, Carthage, Mo.—Was born August 12, 1868, at Covington, Ky. Came to Missouri in 1874. Was educated in the public and private schools at Carthage. Was married September 1, 1903, to Miss Bertha E. Fancher. Appointed to present position in August, 1913. Has for a number of years been connected with the dairy industry of the State.

Annual Meeting.

MINUTES OF PROCEEDINGS.

State Board of Agriculture, Office of the Secretary,
Columbia, Mo., January 12, 1914.

The Board met in the office of the Secretary at 4 p. m. with President Lewis in the chair. Those present were: Messrs. Wilkinson, Hilke, Brayton, Bellows, Mumford, Evans, Newlon, Parker, Wakefield, Hedrick, Duncan, Swink, Thralls, Dallmeyer, Lewis, Nelson, Gentry and Barnes. Absent, Governor Major.

The minutes of meeting in St. Louis November 12, 1913, were read and, on motion of Judge Swink, were approved.

The President appointed Mr. Hilke, Mr. Wakefield and Mr. Hedrick as the Auditing Committee to examine the financial reports of the Secretary and Treasurer.

The Secretary then read his report of the work done by the Board and a few recommendations for the future. On motion of Mr. Brayton and Mr. Thralls, the report was received and ordered printed in the annual report.

Mr. E. G. Bennett, State Dairy Commissioner, then read his report and, on motion of Dean Mumford, the report was received and ordered printed in the annual report.

Dr. Luckey, State Veterinarian, presented his list of deputies and, on motion by Judge Swink, supported by Mr. Wakefield, the list was approved and the Secretary directed to issue commissions for the same.

The report of Dr. Sheldon for the first eight months of the year was read by Dr. Luckey, and after much discussion and the consideration of several propositions it was ordered that the President appoint a committee of three, including chairman, to examine Dr. Sheldon's report and to advise what part, if any, should be left out of the annual report. The committee was composed of Mr. Duncan, Judge Wilkinson and President Lewis, and on advice of the committee the report was received and, after eliminating certain words that were considered objectionable, was ordered printed in the annual report.

Dr. Luckey then read his report of work done in his department after September 1, 1913, and, on motion of Mr. Thralls and Mr. Newlon, the report was received and ordered printed in the annual report.

On invitation of the Board, Dr. McAllister of Columbia, Dr. McComas of Sturgeon, Dr. Goodwin, secretary of the Missouri State Medical Society, and Dr. G. O. Cuppaidge of the State Board of Health appeared before the Board to advocate the erection of a medical building on the fair grounds at Sedalia, Mo., where lectures can be given during fair week to instruct the people in hygiene and preservation of health.

On motion of Mr. Barnes and Mr. Brayton, permission was given the State Veterinarian to reduce his salaried force when a reduction of expenditures in the veterinary department becomes necessary.

ELECTION OF OFFICERS.

The chairman called for nominations for the office of President of the Board for the current year. On motion of Mr. Thralls, the rules were suspended and the Secretary was instructed to cast the ballots for Mr. P. P. Lewis for President.

On motion of Mr. Gentry, the rules were suspended and Judge Wilkinson was elected Vice-President.

For the office of Secretary Mr. Duncan nominated Mr. Jewell Mayes and, on motion of Mr. Newlon, the rules were suspended and Mr. Mayes was elected Secretary, to take effect February 1, 1914.

On motion of Mr. Gentry, the rules were suspended and Mr. W. L. Nelson was elected Assistant Secretary.

On motion of Mr. A. T. Nelson, the rules were suspended and Mr. Bright elected Treasurer.

On motion of Mr. Gentry, supported by Mr. Thralls, the chair was authorized to appoint a committee to escort the newly elected Secretary, Mr. Mayes, to the room. Messrs. Wilson, Duncan and Bellows were named as the committee.

On motion of Mr. Barnes and Mr. Thralls, the chairman was authorized to appoint a legislative committee of five members (to be appointed later).

Adjourned to 2:30 p. m. January 13, 1914.

MINUTES OF ADJOURNED MEETING

Secretary's Office, Columbia, Mo.
January 13, 1914, 2:30 o'clock p. m.

Board met in office of Secretary according to adjournment, and in the absence of President Lewis the Vice-President, W. R. Wilkinson, took the chair.

The Secretary-elect, Mr. Mayes, was escorted to the room by the committee and was introduced to the Board by Mr. Duncan, and made a few remarks expressing his appreciation of the honor conferred on him and of the magnitude of the work before him.

Miss Bab Bell, women's institute lecturer for the Board, made a brief report of her work and urged co-operation with the home economics department of the University.

On motion of Mr. Dallmeyer, Miss Bell was authorized to co-operate with the University through its department of home economics.

On motion the secretary was authorized to expend $75.00 out of the Farmers' Institute fund to purchase equipment needed to demonstrate the possibilities in the teaching of home economics in the rural schools.

Mr. Mayes asked for the opinion of the Board on the extension work for women, and the Board informally expressed an approval.

On motion of Mr. Bellows, Mr. W. L. Nelson was authorized to prepare a series of bulletins giving the history of the leading breeds of live stock in Missouri.

Mr. G. W. Reavis made a brief statement on the Boys' State Fair School and asked that his report be published. Mr. J. K. Wright and several members expressed approval of the boys' school.

On motion duly made and carried, the Governor's proclamation governing the movement and quarantine of cattle in McDonald, Newton, Ripley and Oregon counties be annulled.

On motion of Mr. A. T. Nelson, it was ordered that a committee composed of Mr. Mayes, Mr. W. L. Nelson, Dean Mumford and Mr. Wright be authorized to purchase the equipment necessary to give stereopticon shows at Farmers' Institutes.

The committee on the Agricultural College then made the following report which, on motion of Mr. Newlon, supported by Mr. Barnes, was approved and ordered printed in the annual report:

REPORT OF THE COMMITTEE ON THE COLLEGE OF AGRICULTURE.

The Revised Statutes of Missouri, section 601, require that a committee of the Board of Agriculture shall annually make an inspection of the work and progress of the College of Agriculture and the Experiment Station of the University of Missouri, and report its findings to this Board. Acting in accordance with this statutory requirement, your committee begs leave to submit the following report. In submitting this report we have attempted to give definite facts and figures as far as possible which mark the progress of this institution. In general, your committee desires to record its opinion that the College of Agriculture is making rapid progress in all lines of activity coming within the scope of its organization. The enrollment of students has rapidly increased, the investigations conducted by the Experiment Station are practical, and the extension activities conducted by the college which have for their purpose the bringing of results of the college directly to the farmer, all have been augmented and more completely and systematically organized during the past year:

ENROLLMENT OF STUDENTS.—The enrollment in the College of Agriculture has increased from 147 in 1903-04 to 821 during the year 1913-14. During the past five years the enrollment in the College of Agriculture has increased 350 per cent. The enrollment in the long course in 1903-04 was 75. In 1913-14 the enrollment is 506. The short course enrollment in 1903-04 was 72. The enrollment in the short course in 1913-14 is 315.

We find that from the years 1901 to 1906 the enrollment increased from 160 to 186, and that from 1907 the increase has been from 211 to 820 at the present time.

Special courses are offered by the College of Agriculture for the preparation of teachers for the rural schools, for the training of dairymen, for poultry farmers, and a short course for women in home economics.

ADDITIONS TO EQUIPMENT AND INCREASE IN THE TEACHING FORCE—During the past year the building for agricultural chemistry has been completed and equipped, and students in the College of Agriculture are now receiving instruction in this building. The physics building has also been completed and is fully equipped for instruction in that subject. A greenhouse for the department of agronomy, to be used in soil and plant experiments, has greatly added to the efficiency of instruction and investigation in that department. Extensive repairs have been made on the dairy building. Laboratories for the study of animal nutrition have been provided in the new building for agricultural chemistry. Instruction is now offered in the cutting and curing of meats. The following live stock has been added to the department of animal husbandry: By purchase—One Percheron stallion, one saddle filly, one high grade draft horse, twenty-eight pure bred Dorset, Southdown, Hampshire, Shropshire, and Cotswold sheep, four pure bred Duroc-Jersey and Poland China swine, thirty-nine head of cattle for instructional and investigational purposes.

There have been produced on the farm the following animals: Four fillies, seventy-five pure bred sheep, one hundred and sixty-five pure bred hogs, fifty-five pure bred cattle.

The following additions have been made to the teaching force in the University and College of Agriculture: Agronomy, one assistant; entomology, one assistant; farm management, two assistants; poultry husbandry, one assistant; veterinary science, one assistant; rural economics, one assistant professor.

ACHIEVEMENTS OF AGRICULTURAL STUDENTS.—We point with pride to the fact that in 1913 the dairy judging team of the University of Missouri won first place in competition with sixteen institutions representing the various agricultural colleges in the United States. Mr. W. A. Rhea, a Missouri student, won first and a four hundred dollar scholarship; and Mr. L. W. Wing, Jr., another Missouri man, won second and also a four hundred dollar scholarship. These prizes were won in competition with forty-eight other students representing the best agricultural colleges in the United States. The fruit judging team competing in the National Fruit Judging Contest at Washington, D. C., won first place and brought back to Missouri a beautiful silver cup. The live stock judging team at the International Live Stock Show at Chicago won second place in competition with twelve other teams representing the agricultural colleges of America. No more convincing testimony could be offered to the efficiency of the instruction given in the Missouri College of Agriculture than that represented by the winnings of Missouri men in national and international competitions.

FAT CATTLE PRIZES WON BY THE COLLEGE OF AGRICULTURE.—The department of animal husbandry fed and exhibited fourteen head of fat cattle at the Missouri State Fair, the American Royal, and the International Live Stock Shows. Several of these cattle were bred by the College of Agriculture. At the Missouri State Fair every animal exhibited won a first prize. At the three shows the cattle exhibited by the University of Missouri won the following prizes: One grand championship, five championships, twenty-five first prizes, eight second prizes, nine third prizes, eight fourth prizes, one fifth prize, one sixth prize. Prizes were also won on fat barrows which were exhibited for the first time in 1913.

EXTENSION TEACHING.

We find that the college has more and more emphasized the importance of carrying directly to the farmers the results of important and practical investigations made by the Experiment Station. A brief statement regarding these outside activities is indicated in the following paragraphs:

Branch Short Courses in Agriculture.—Since the report of the Agricultural College Committee one year ago, the College of Agriculture has conducted eleven branch short courses, each one five days in length. The total attendance in these short courses was 862, and the average daily attendance at each short course was 47.

Farmers' Institutes.—The college has for many years co-operated with the Secretary of the Board of Agriculture in Farmers' Institute work in Missouri. During the past year teachers from the College of Agriculture have attended forty Farmers' Institutes located in thirty-three counties; 6,130 people were in attendance at these Farmers' Institute meetings. In addition to the foregoing, men from the College of Agriculture have attended forty-nine local farmers' meetings in twenty-four other counties of the State. There were 4,495 people in attendance upon these meetings.

Special Demonstration Trains.—The College of Agriculture co-operated in conducting three special demonstration trains running through twenty Missouri counties, and thus reached directly 15,350 people.

Correspondence.—The demands upon the College of Agriculture for special information upon all phases of agriculture and horticulture are increasing at a rapid rate. The number of letters received by the college has more than doubled in the past three years. In 1913, 52,407 inquiries for special information were received by the various departments of the College of Agriculture. Assistance was given to each of these inquiries either by personal replies or by sending publications of the college.

Judging Live Stock at County Fairs.—During the past year the college furnished experienced judges to fifty-three county fairs located in forty-two Missouri counties. There were 384,977 people in attendance at these live stock shows.

Judging Corn Shows.—Calls for judges at corn shows have increased. During the past year judges were furnished to thirty-six local corn shows located in thirty-one counties. There were 75,500 people attending these corn shows.

Boys' Corn Growing Contests.—The Boys' Corn Growing Contests have now been definitely organized in 113 Missouri counties, and there are enrolled in these contests 3,500 boys. More than 600 samples of corn were exhibited by boys during the year. The value of this work cannot be overestimated, as an abiding interest in agriculture has been created on the part of many young men.

County Farm Advisers.—In accordance with provisions of the farm adviser law enacted by the Forty-seventh General Assembly, the College of Agriculture has organized twelve counties and has actually employed ten county farm advisers, who are now actively at work for the agricultural betterment of the counties in which they are located. The principle of this project is not new in the policy of the College of Agriculture. The college has been doing extension work for many years. The present plan attempts to make this extension work more efficient by locating a representative of the college in each county where the application of the practical investigations made by the Experiment Station can be made directly to the farmer himself. On an average, the farm advisers have been located in the various counties less than one year. During that time the farm advisers have visited 765 farms, attended 252 farmers' meetings, spoken to 19,674 people, and given personal advice to 2,749 farmers. Numerous other activities have been promoted and directed by the farm advisers. This project has accomplished very great service to the farmers of Missouri.

WORK IN THE EXPERIMENT STATION.

The Experiment Station continues to concern itself with many practical investigations of the problems of the farmer. Some of these investigations which seem to your committee to be of immediate benefit to farmers are the following:

1. The improvement of unimproved western ewes through use of pure bred rams.
2. Economic production of pork with forage crops.
3. Comparison of warm feed and water to cooked and uncooked feed and cold water for hogs.
4. Best methods of preparing corn for fattening steers.
5. Comparison of corn and oats as feed for working mules.
6. Most profitable crop rotations for Missouri.
7. Experiments with alfalfa, cowpeas, soy beans, sweet clover and other economic plants.
8. Nutrition of heifers.
9. A study of the life histories and methods of eradication of tarnished plant bug, apple-leaf hopper, hickory twig girdler, peach-tree borer and other injurious insects.
10. Experiment to determine the durability of fence posts, variously treated to resist decay.
11. Best methods of storing seeds.
12. Farm cost accounting.

13. Distribution of labor on a farm.
14. The organization and administration of a profitable farm.
15. Peach breeding for hardy sorts.
16. Spraying fruits for insect and fungous diseases.
17. Experiment in orchard heating.
18. Fall versus spring planting of trees.
19. Self-fertility and self-sterility of fruits.
20. Study of tomato diseases in St. Louis county.
21. Grain smut infections and control.
22. Microorganisms in silage.

Soil Survey.—In co-operation with the United States Department of Agriculture, the Experiment Station has completed a detailed soil survey of thirty-four Missouri counties. Of these five counties, Nodaway, Ralls, Perry, Dunklin and Greene were completed during the season of 1913. The soil survey forms the basis for work on the soil experiment fields. The station is now conducting soil experiments on twenty-one fields representing twenty-one soil types of the State. On some of these fields it has been found possible to double the yield of farm crops and increase the net profits by proper crop rotations and the addition of fertilizers.

Fertilizer Control.—The Experiment Station has collected fertilizers from 81 Missouri counties. Over 800 samples have been analyzed and the results published in Bulletin Number 109. The work of the Experiment Station in the inspection of commercial fertilizers in this State has practically driven out of the State dishonest fertilizer dealers. The farmer who purchases his fertilizers from a reliable dealer may be assured that the fertilizer contains the fertilizing elements guaranteed by the manufacturer. The Experiment Station report indicates clearly which firms are furnishing a good grade of fertilizers and which firms are failing to supply a grade of fertilizers as good as their guarantee. We find that the agricultural work in several departments is seriously hampered for want of room, and suggest that the next Legislature of Missouri be memorialized to provide additional room, also additional land for experimental work, if possible, within the revenues of our State.

Publications.—During the year the College of Agriculture has sent out 29,500 copies of newspaper bulletins and 160,674 copies of regular bulletins. The following publications have been issued during the year:

Bulletin 107—Farm Poultry House Construction.
Bulletin 108—Grass Investigations in the Ozark Upland.
Bulletin 109—Inspection of Commercial Fertilizers.
Bulletin 110—Forage Crop Rotations for Pork Production.
Bulletin 111—Report of the Director for Year Ending June 30, 1912.
Bulletin 112—Corn Silage for Fattening Two-year-old Steers.
Bulletin 113—Commercial Fertilizers for Strawberries.
Research Bulletin 6—The Distribution of Farm Labor.
Circular 57—Keeping Records of Dairy Cows.
Circular 58—The Missouri Fertilizer Law.
Circular 59—The Farm Adviser Law of Missouri.
Circular 60—The County Farm Adviser Plan.
Circular 61—Docking and Castrating Lambs.
Circular 62—The Chinch Bug and Its Control.
Circular 63—Inspection Service, Control of Insect Pests and Plant Diseases.
Circular 64—Directions for Testing Cream.
Circular 65—Advantages from Use of the Pure Bred Ram.
Circular 66—Cotton Seed Selection for Southeast Missouri.
Index to Bulletins 97-104.
Index to Research Bulletins 1-3.

Your committee has examined the work of the various departments and notes with approval the signs of progress in all of the activities of the college. Your committee has been informed that impotent hog cholera serum has been sent out by plants in the State of Missouri. We recommend that all serum manufactured in the State of Missouri be tested for potency before being sent out for use by Missouri farmers. We recommend that all hog cholera serum plants located in this State be operated strictly in accordance with the rules and regulations of the Federal Bureau of Animal Industry governing the production of hog cholera serum, and that all such plants be required by law to be kept up to the federal standard in all respects. Under present arrangements, the State Veterinarian is vested with police authority, and the State Agricultural College has charge of the manufacture and distribution of hog cholera serum. We further recommend that the distribution of hog cholera serum, made at the expense of the State, and all police authority necessary in the control of hog cholera be vested in one department, with a view that the State may hereafter be saved the expense of maintaining two different departments for the control of hog cholera.

Respectfully submitted,

E. E. Swink,
E. L. Newlon,
Mack V. Thralls,
Committee.

On motion the Board of Agriculture then adjourned and immediately reconvened as a Fair Board.

Board met in office of the Secretary in adjourned session with Vice-President Wilkinson in the chair.

The Auditing Committee made the following report:

REPORT OF THE AUDITING COMMITTEE.

To the Board of Agriculture:

We, the undersigned, members of the committee appointed by the President to examine the financial statement of the Secretary and Treasurer and to inspect the warrants drawn by the Executive Committee, have examined the same and find that the books of the Secretary agree with the financial statement submitted, and the same agrees with the report of the Treasurer of the Board.

The following warrants which have been issued at the last annual statement, but had not been presented for payment, we find have since been paid:

MONTHLY CROP REPORT.	
No. 624	$25.04
No. 625	10.50
No. 626	1.65
No. 628	43.75
FARMERS' INSTITUTE.	
No. 1388	$25.00
No. 1391	200.00
No. 1395	22.25
No. 1399	13.87
No. 1400	150.47
STATE VETERINARY FUND.	
No. 2773	$2.64
No. 2775	62.71
No. 2776	194.91
APIARY INSPECTION.	
No. 37	$7.90
STATE HIGHWAY ENGINEER.	
No. 416	$5.25

The following warrants, for which corresponding vouchers are on file with the Secretary, have not been presented to the treasurer for payment:

DISTRIBUTION OF ANNUAL REPORT.	
No. 279	$1.50
MONTHLY CROP REPORT.	
No. 755	$44.41
No. 756	21.15
FARMERS' INSTITUTE.	
No. 1734	$4.28
No. 1737	5.77

STATE VETERINARY FUND.

No. 3141	$13.50
No. 3142	23.54
No. 3107	7.50

When these warrants have been presented to and paid by the Treasurer there will be an exact agreement in balances.

Respectfully submitted,

J. J. Wakefield,
Christ Hilke,
T. J. Hedrick.
Committee.

On motion duly made and carried, the report was approved and committee discharged.

Mr. Newlon presented the following for the consideration of the Board:

As our Secretary has asked this Board to give some recognition to the improvement of the dog family in Missouri, I move that the State Board of Agriculture most heartily approve the recommendation of the Secretary, and at least lend its influence to the improvement of the breeds of dogs most beneficial to the farmers of Missouri. The motion was duly seconded and unanimously carried.

Mr. Thralls presented the following:

Be it resolved by the Missouri State Board of Agriculture, That in the retirement of Honorable T. C. Wilson as Secretary of this Board we shall miss him, and hereby tender him our fullest thanks for his able, efficient and untiring service in behalf of and for the promotion of all details of the work of this Board in all its departments.

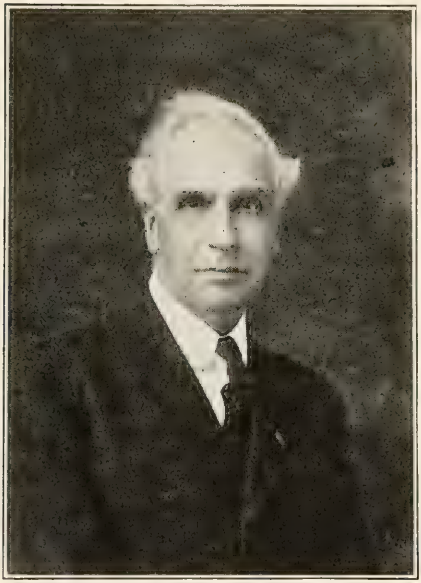
On motion the resolution was adopted by unanimous vote.

On motion it was ordered that the Secretary of the Fair Board furnish to the Secretary of the Board of Agriculture a list of those winning prizes at the State Fair in 1913 for live stock exhibits, said list to be printed in the annual report.

On motion the meeting adjourned sine die.

REPORT OF THE SECRETARY.

To the Honorable Members of the Board of Agriculture:



T. C. Wilson, Retiring Secretary.

This is the fourth annual meeting of the Board during my administration of the office of Secretary, and it is doubtless appropriate that I give a brief statement showing some of the work accomplished.

The affairs of the office had been ably and conscientiously administered by my predecessor, and I found a well organized, effective force doing most excellent work.

My purpose from the beginning was to make no changes except for betterment of the service, and I have adhered strictly to that policy. In every department and during all of my administration I have had the most cordial and loyal support of each and every employe, and this often when the service was but poorly paid.

My first effort was to ascertain where improvement could be made without increase of expenditure, and I may give a few instances.

RECORDS AND FILES COMPLETED.

To my surprise I found the office did not have a complete set of the annual reports of this Board. Eight volumes were missing from our office set and I went to work immediately to secure the missing volumes. This I found much more difficult than I supposed. I appealed to county clerks, libraries and individuals, and after persistent and determined effort during three years I have completed the set, securing the last volume some six months ago. The monthly bulletins issued by the Board were growing more and more valuable, and I gathered up some of the rare ones and had them bound and added to our collection, until we now have a complete set of 10 volumes, and the eleventh will soon be added, making the set complete to 1914.

MAILING LIST GREATLY INCREASED.

A hasty inspection of our mailing list showed many names of those who had changed residence or had died, and I determined to make the list a live one. Our efforts in this work soon cut the list of 3,500 to less than 3,000 names. By enlisting the aid of the farmer himself and making our bulletins more practical than technical, they became more and more popular and the demand for them caused a rapid growth in our list, until today we have a list very near the 10,000 mark and practically all receiving our publications.

15,495,000 PAGES OF PRINTED MATTER.

Our monthly bulletins were being printed in lots of from 2,000 to 8,000 copies, and some of these were not much in demand. We now find it generally necessary to print 12,000 copies, and then some issues are exhausted long before the demand has been satisfied. We dare not print more copies, for the funds allowed us by the Legislature will not permit. During the year 1913 the following publications were issued from this office:

Vol. 11, No. 1, January—The County Farm Adviser and County Bureau of Agriculture, 46 pages, 10,000 copies.
Vol. 11, No. 2, February—Methods of Fattening, Dressing and Marketing Poultry, 32 pages, 12,000 copies.
Vol. 11, No. 3, March—Missouri Home Makers' Association, 1913, 130 pages, 3,000 copies.
Vol. 11, No. 4, April—Pastures for Hogs, 39 pages, 12,000 copies.
Vol. 11, No. 5, May—Agricultural Laws in Missouri, 35 pages, 12,000 copies.
Vol. 11, No. 6, June—Country Hams and Bacon, 53 pages, 12,000 copies.
Vol. 11, No. 7, July—Blue Grass in Missouri, 40 pages, 12,000 copies.
Vol. 11, No. 8, August—Peach Growing in Missouri (Koshkonong-Brandsville district), 28 pages, 12,000 copies.
Vol. 11, No. 9, September—Silo Facts from Missouri Farmers, 108 pages, 15,000 copies.
Vol 11, No. 10, October—Missouri Saddle Horse, 95 pages, 12,000 copies.
Vol. 11, No. 11, November—Development of Home Economics Work in Missouri, 23 pages, 12,000 copies.
Vol. 11, No. 12, December—Missouri Crop Review for 1913, 23 pages, 12,000 copies.
Annual report, 658 pages, 12,500 copies.
Booklet, "Missouri Peaches," 32 pages, 12,000 copies.

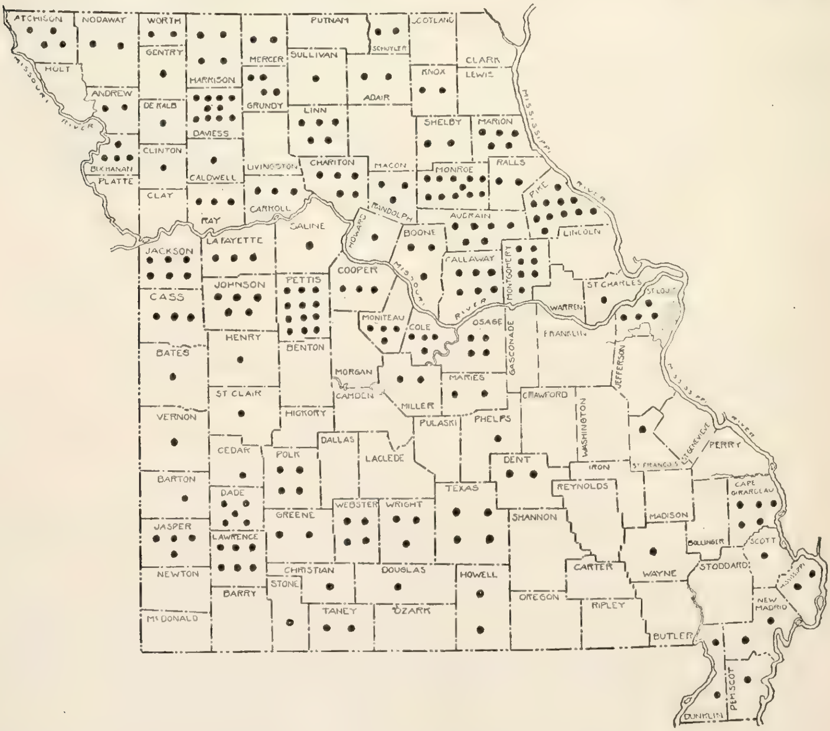
This makes a total of 15,495,000 pages of printed literature in 1913, not including the monthly crop report.

AUTHORITATIVE CROP REPORTS.

Our crop reports, made up from estimates supplied by more than 600 correspondents representing the 114 counties of the State, are issued during the months of April, May, June, July, August, September and October. In October a wheat and live stock report is issued and in December a general report covering all the principal field crops. These reports are much in demand and are generally regarded as among the most authoritative issued by any state.

240 FARMERS' INSTITUTES, 53,612 ATTENDANCE.

The Farmers' Institute is a very important part of the Board's work, and the interest has grown materially. We now have two lecturers employed by the year and both are doing most excellent work. Their hearts and their lives are given up to their calling, and both have resisted tempting offers of greater salaries elsewhere because of this fact. Mr. Wright has been with us long enough that the Board members are familiar with the character of his work. Miss Bell has been in our service less than a year, but her work is applauded by State officers, county school superintendents, county farm advisers, and above all, by the people everywhere she has appeared. The work Miss Bell is presenting to the people is new to the great majority and it is often difficult to get a hearing at first, but in every instance


ATCHISON
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CLARK
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LEWIS
MISSOURI
RIVER
ANDREW
ADAIR
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LINN
SHELBY
MARION
DAVIESS
MISSISSIPPI
BUCHANAN
CLINTON
LIVINGSTON
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MACON
MONROE
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CALDWELL
CLAY
CARROLL
RANDOLPH
PIKE
RIVER
RAY
AUDRAIN
SALINE
HOWARD
BOONE
LINCOLN
LAFAYETTE
JACKSON
CALLAWAY
MONTGOMERY
COOPER
MISSOURI
ST CHARLES
ST LOUIS
JOHNSON
PETTIS
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RIVER
WARREN
MONITEAU
COLE
OSAGE
FRANKLIN
HENRY
BENTON
BATES
GASCONADE
JEFFERSON
MORGAN
MARIES
ST CLAIR
CAMDEN
MILLER
CRAWFORD
VERNON
HICKORY
PULASKI
PHELPS
WASHINGTON
MISSISSIPPI
RIVER
STE GENEVIEVE
PERRY
CEDAR
DALLAS
POLK
LACLEDE
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IRON
ST FRANCOIS
BARTON
TEXAS
REYNOLDS
CAPE GIRARDEAU
DADE
WEBSTER
WRIGHT
GREENE
SHANNON
MADISON
JASPER
LAWRENCE
BOLLINGER
SCOTT
CARTER
WAYNE
STODDARD
MISSISSIPPI
NEWTON
CHRISTIAN
DOUGLAS
HOWELL
STONE
BARRY
OREGON
RIPLEY
NEW MADRID
TANEY
OZARK
McDONALD
BUTLER
PEMISCOT
DUNKLIN

where an audience has been secured, through curiosity or otherwise, she has aroused great interest, and in many cases a permanent organization has been effected promising much for the future. Since she has been with the Board she has addressed 78 meetings composed of 3,776 people and organized 23 active working home makers' clubs: In Dade county, 4; Dent, 1; Jackson, 5; Buchanan, 5; Montgomery, 1; Cape Girardeau, 1; Harrison, 2; Chariton, 1; Lafayette, 1, and Pike, 1.

Since beginning of this institute year we have held 240 institutes in 77 counties, with a total attendance of 53,612.

ECONOMY IN CONDUCTING WORK.

I might as well give some comparisons of our work with that done in other states. We have an appropriation of $17,500 for the Farmers' Institute fund for the years 1913 and 1914. Assuming that every dollar is spent in the institute work alone, we would have $8,750 for the calendar year. The United States reports of institute work in all the states for the fiscal year ending July 1, 1913, shows for Missouri 314 days of institute work, and allowing the full half of our biennial appropriation for this work alone, our work costs $27.86 per day. The same report shows for Kansas an average of $39.91; Iowa, $155.19; Illinois, $85.39; Kentucky, $119.32; Nebraska, $55.12. Michigan stands lowest at $15.25.

This comparison does not tell all the truth, for we do not spend $8,750 on the institutes. When we deduct the money spent for Farmers' Week, for prizes given to encourage corn growing, meat curing, dairying, tomato growing, etc., as well as the expenses of speakers for the Farmers' Week, we reduce the $27.86 daily cost of the institute work to near one-half, and this should be done to give a fair comparison with results in other states. While the demand for the help afforded by our institutes has not fallen off, the appropriations by our recent Legislature for this work was reduced $5,000, as compared to that of the previous session, by leaving out the appropriation for the extension course.

HIGHWAY ENGINEER'S DEPARTMENT ABOLISHED.

The Highway Engineer's Department was abolished by the recent Legislature and that work transferred to the Highway Commissioner.

MONEY NEEDED FOR APIARY WORK.

The apiary work has not progressed during this four-year term because of the lack of funds. The protection of the bee industry and the increase in production of honey is of great importance to the State, and this Board can well afford to use their utmost power to secure much larger appropriations for this fund to enable the Apiary Inspector to employ assistants enough to drive the foul brood and other enemies of the bee out of the State and keep it out. The appropriation, now $2,000, should be at least $5,000 for the biennial period.

THE VETERINARY DEPARTMENT.

The Forty-sixth General Assembly increased the allowance for this work from $23,200 to $25,000 for the two-year period. Long before the end of 1912 it was apparent that the funds would not carry on the work, and the Governor gave this Board authority to continue the needed work and make a deficiency demand on the next session. This was done and a deficiency account of $2,634.51 was reported to the appropriation committee of the House and of the Senate, and every member of each committee was supplied with the information. For some reason best known to the House Committee, no appropriation was made to pay this deficiency, although a similar over-expenditure in the Highway Engineer's fund was provided for and paid.

The work of the State Veterinarian and his deputies has increased enormously in Missouri during the last four years, which increase is largely due to the prevalence of tuberculosis and hog cholera. This Board very wisely asked our last Legislature for an appropriation of $50,000 to run the veterinary department for the years 1913 and 1914, but a short-sighted Legislature authorized only half that amount, and it will be absolutely necessary to exceed this allowance and create another deficiency or let the people suffer the terrible ravages of tuberculosis, glanders and other diseases until another Legislature can relieve the dangerous situation. In Dr. Luckey you have a man by nature and temperament most admirably equipped to carry on the work. To this may be added the great value of his years of experience both in the office of State Veterinarian and in private practice. The only need is in the *support* this Board can and ought to give him. Pressure can and should be applied in our next General Assembly to secure for this department not what was asked of the last assembly, but double that amount. Take a firm stand for $100,000 and give Dr. Luckey your combined support and the money can be secured that will enable your State Veterinarian not only to drive out bovine tuberculosis, thereby reducing the death rate by consumption one-half, but will also enable him to control the hog cholera situation in Missouri. It is not necessary for me to tell you gentlemen what this means.

This briefly covers the expenditures of the funds apportioned to your use.

IN CONCLUSION.

In closing my official connection with the Board I feel it my duty to call attention to some serious conditions. If this Board is to continue its great work in the interest of agriculture, it must assert itself and stand up for its rights. The time has passed when the individual or a collection of individuals can long exist and accomplish anything worth while without a struggle. One after another of your prerogatives are being sought and some have been taken over by other interests. If you quietly permit this to continue the time will soon come when a Board of Agriculture will not be needed in Missouri and your existence will end.

T. C. Wilson, Secretary.

SECRETARY'S FINANCIAL STATEMENT.

To the Board of Agriculture:

I beg to submit the following exhibit of the financial transactions of the Board for the year beginning January 11, 1913, and ending January 12, 1914, which shows the balances on hand at the beginning of the year, the requisitions drawn on State Auditor, warrants drawn on W. A. Bright, Treasurer of the Board, balances in the treasury of the Board, and the balances in the different funds remaining in the State Treasury:

DISTRIBUTION OF ANNUAL REPORTS.

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Jan. 11	To balance on hand		$337.40	
Feb. 8	By E. A. Remley	242		$50.00
" 8	Wells, Fargo & Company, express	243		33.83
" 8	American Express Company	244		1.75
" 8	Columbia Telephone Company	245		16.63
Mar. 21	Barnes-Crosby Company	246		89.29
Apr. 9	Barnes-Crosby Company	247		26.21
" 9	E. A. Remley	248		75.00
" 9	T. C. Wilson	249		6.30
" 28	To requisition		200.00	
May 1	By Barnes-Crosby Company	250		54.76
" 1	J. N. Mitchell	251		38.73
" 1	W. A. Bright	252		25.00
" 8	Columbia Telephone Company	253		10.95
" 8	Barnes-Crosby Company	254		36.31
" 19	J. W. Butler Paper Company	255		144.90
" 19	Wabash Railroad Company	256		3.15
" 27	To requisition		200.00	
" 31	By Barnes-Crosby Company	257		2.60
June 30	Barnes-Crosby Company	258		9.25
" 30	American Express Company	259		4.05
July 30	To requisition		500.00	
Aug. 4	By J. H. Guitar, postmaster	260		500.00
" 26	To requisition		1,000.00	
" 30	By E. W. Stephens Publishing Company	261		27.50
" 30	M., K. & T. Railway Company	262		39.48
" 29	J. N. Mitchell	263		47.40
Sept. 10	J. H. Guitar, postmaster	264		500.00
" 10	J. H. Guitar, postmaster	265		250.00
" 24	To requisition		1,000.00	
" 29	By American Express Company	266		133.46
" 29	23 Transfer Company	267		13.80
" 27	J. H. Guitar, postmaster	268		500.00
Oct. 8	M., K. & T. Railway Company	269		50.51
" 8	23 Transfer Company	270		19.25
" 8	Wells, Fargo & Company	271		43.63
" 8	J. N. Mitchell	272		53.40
" 8	Arthur Butler	273		13.95
" 8	Luther Luckett	274		5.48
" 31	J. W. Butler Paper Company	275		7.13
Nov. 13	Arthur Butler	276		8.40
" 13	J. N. Mitchell	277		28.45
" 13	23 Transfer Company	278		9.50
Dec. 5	Goro Ida	279		1.50
Jan. 12	Balance			355.85
	Totals		$3,237.40	$3,237.40

MONTHLY CROP REPORT.

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Jan. 11	To balance on hand		$251.48	
" 14	By Knight & Rosse	680		$3.55
" 14	E. A. Remley	681		8.00
" 14	M., K. & T. Railway Company	682		8.17
" 14	23 Transfer Company	683		4.50

MONTHLY CROP REPORT—(Continued.)

Date.	Name.	War. No.	Dr.	Cr.
Jan. 14	The Statesman Publishing Company	684		$6.50
" 14	Barnes-Crosby Company	685		69.61
" 14	Barnes-Crosby Company	686		4.58
" 14	Wabash Railway Company	687		1.75
Mar. 3	23 Transfer Company	688		4.00
" 7	J. N. Mitchell	689		28.40
" 7	Wabash Railway Company	690		2.25
" 7	M., K. & T. Railway Company	691		10.15
" 7	Columbia Telephone Company	692		17.05
" 7	American Express Company	693		1.85
" 7	Western Union Telegraph Company	694		1.48
April 1	To requisition		$200.00	
Mar. 21	By S. Mayer	695		4.00
" 27	Paul E. Parsons	696		11.40
April 9	Columbia Herald Company	697		4.50
" 9	Barnes-Crosby Company	698		42.38
" 9	23 Transfer Company	699		1.25
" 9	E. A. Remley	700		13.60
" 9	H. E. Reed	701		2.75
" 9	Paul Ford	702		14.02
" 9	M., K. & T. Railway Company	703		5.25
May 1	Callie Markland	704		12.40
" 8	The Drug Shop	705		4.03
" 19	Columbia Herald Newspaper Co.	706		7.50
" 31	M., K. & T. Railway Company	707		4.48
" 31	23 Transfer Company	708		1.50
" 31	Columbia Herald Company	709		6.00
" 31	Callie Markland	710		5.80
" 31	E. A. Remley	711		40.00
June 30	23 Transfer Company	712		3.25
" 30	Statesman Publishing Company	713		22.50
" 30	T. C. Wilson	714		1.00
" 30	J. N. Mitchell	715		43.75
" 30	M., K. & T. Railway Company	716		7.28
" 30	Columbia Herald	717		6.00
" 30	The Drug Shop	718		7.75
" 30	E. A. Remley	719		40.00
" 30	E. A. Remley	720		25.35
July 7	Columbia Telephone Company	721		8.90
" 7	23 Transfer Company	722		3.25
" 10	Barnes-Crosby Company	723		6.56
" 10	The Drug Shop	724		7.80
" 28	Barnes-Crosby Company	725		37.14
" 30	To requisition		300.00	
" 31	By The Drug Shop	726		4.80
" 31	University Co-operative Store	727		21.75
Aug. 4	E. A. Remley	728		3.35
" 30	American Express Company	729		3.05
" 30	Wells, Fargo & Company	730		4.50
" 30	J. H. Guitar, postmaster	731		40.00
Sept. 10	George T. Kline	732		3.00
" 24	To requisition		200.00	
" 29	By Herald-Statesman Publishing Co.	733		6.00
" 29	Barnes-Crosby Company	734		65.80
" 29	J. F. Barham	735		3.40
Oct. 8	J. H. Guitar, postmaster	736		7.75
" 8	J. H. Guitar, postmaster	737		40.00
" 16	The Drug Shop	738		3.05
" 31	Minnesota Engraving Company	739		25.00
" 31	Herald-Statesman Pub. Company	740		6.00
" 31	J. H. Guitar, postmaster	741		40.00
" 31	Wells, Fargo & Company, express	742		6.38
Nov. 13	The Missouri Store	743		39.75

MONTHLY CROP RFPORT—(Continued.)

Date	Name.	War. No.	Dr.	Cr.
1913.				
Nov. 13	American Express Company	744		$6.22
" 13	J. H. Guitar, postmaster	745		39.50
" 13	Barnes-Crosby Company	746		5.08
" 25	To requisition		$200.00	
Dec. 5	By M., K. & T. Railway Company	747		3.36
" 5	J. H. Guitar, postmaster	748		40.00
" 5	Rufus Jackson	749		32.44
" 5	E. W. Stephens Publishing Company	750		39.50
" 5	Herald-Statesman Publishing Co.	751		72.00
" 5	J. N. Mitchell	752		20.70
" 5	Wells, Fargo & Company, express	753		8.50
" 5	Barnes-Crosby Company	754		11.71
" 20	To requisition		200.00	
" 20	By Eloise Kneisley	755		44.41
" 20	Katherine Price	756		21.15
" 29	E. W. Stephens Publishing Company	757		8.00
" 29	Knight & Rosse	758		5.85
" 29	Barnes-Crosby Company	759		1.56
" 31	J. H. Guitar, postmaster	760		100.00
" 31	23 Transfer Company	761		5.25
" 31	M., K. & T. Railway Company	762		15.12
" 31	Herald-Statesman Publishing Co.	763		45.00
" 31	J. N. Mitchell	764		36.05
Jan. 12	To overdraft		106.73	
	Totals		$1,458.21	$1,458.21

EXPENSE OF MEMBERS.

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Jan. 11	To balance on hand		$168.06	
" 14	By N. H. Gentry	938		$8.77
" 14	E. L. Newlon	939		24.65
" 14	E. L. Newlon	940		15.75
" 14	T. J. Hedrick	941		17.50
" 14	William P. Evans	942		3.90
" 14	John Parker	943		23.20
" 14	A. T. Nelson	944		46.00
" 14	F. T. Munson	945		31.05
April 1	To requisition		300.00	
Mar. 21	By T. J. Hedrick	946		20.84
" 21	John Parker	947		18.50
" 21	E. E. Swink	948		22.92
" 21	H. C. Duncan	949		20.29
" 21	E. L. Newlon	950		26.44
" 21	A. T. Nelson	951		26.60
" 21	N. H. Gentry	952		7.38
" 21	C. M. Barnes	953		34.24
April 28	To requisition		100.00	
May 9	By Fred T. Munson	954		11.40
" 9	W. R. Wilkinson	955		48.00
" 9	John Parker	956		12.60
" 9	C. D. Bellows	957		18.35
" 9	E. E. Swink	958		23.00
" 9	A. T. Nelson	959		31.10
" 9	Charles Householder	960		35.70

EXPENSE OF MEMBERS—(Continued.)

Date.		Name.	War. No.	Dr.	Cr.
1913					
May	9	E. L. Newlon	961		$31.34
“	9	H. C. Duncan	962		14.32
“	9	Fred T. Munson	963		17.00
“	9	F. B. Mumford	964		7.02
“	9	T. C. Wilson	965		7.02
“	9	W. A. Dallmeyer	966		9.58
“	9	N. H. Gentry	967		4.25
“	9	C. M. Barnes	968		36.88
“	9	P. P. Lewis	969		69.80
“	9	J. H. Brayton	970		25.06
“	9	W. P. Evans	971		10.28
“	27	To requisition		$200.00	
“	31	By Henry Steinmesch	972		13.00
“	31	T. J. Hedrick	973		17.28
“	31	Charles Householder	974		26.35
June	30	To requisition		100.00	
July	30	To requisition		200.00	
Aug.	4	By T. C. Wilson	975		15.59
“	4	N. H. Gentry	976		5.22
“	4	T. J. Hedrick	977		15.20
“	4	Henry Steinmesch	978		8.50
“	4	W. R. Wilkinson	979		17.50
“	4	C. M. Barnes	980		25.54
“	4	J. H. Brayton	981		12.49
“	4	E. L. Newlon	982		21.06
“	4	E. E. Swink	983		15.80
“	4	A. T. Nelson	984		19.05
“	4	John Parker	985		16.85
“	4	P. P. Lewis	986		11.20
“	4	Charles Householder	987		6.40
“	4	H. C. Duncan	988		17.16
“	4	Fred T. Munson	989		13.25
Oct.	25	To requisition		100.00	
Nov.	25	To requisition		200.00	
Dec.	5	By William P. Evans	990		5.60
“	5	E. L. Newlon	991		17.28
“	5	A. T. Nelson	992		20.50
“	5	H. C. Duncan	993		25.80
“	5	N. H. Gentry	994		15.12
“	5	Mack V. Thralls	995		23.80
“	5	St. Louis Button Company	996		5.00
“	22	To requisition		200.00	
“	29	By P. P. Lewis	997		7.50
“	29	T. J. Hedrick	998		32.25
“	29	W. A. Dallmeyer	999		11.25
“	29	E. E. Swink	1000		9.00
“	29	C. D. Bellows	1001		24.25
Jan.	12	Balance			332.55
		Totals		$1,568.07	$1,568.07

FARMERS' INSTITUTE.

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Jan. 11	To balance on hand		$2,806.73	
" 14	By R. L. Hill	1557		$10.75
" 14	W. C. Swarner	1558		1.95
" 14	American Express Company	1559		6.03
" 14	J. W. Comer	1560		8.09
" 14	J. C. Hackleman	1561		30.47
" 14	C. L. White	1562		79.43
" 14	George W. Williams	1563		83.19
" 14	H. L. Kempster	1564		17.08
" 14	P. M. Brandt	1565		9.45
" 14	M. F. Miller	1566		33.77
" 14	T. C. Wilson	1567		11.60
" 14	W. R. Cockefair	1568		18.83
" 14	E. W. Stephens Publishing Company	1569		12.50
" 14	Western Union Telegraph Company	1570		1.00
" 14	Columbia Telephone Company	1571		17.00
" 14	Statesman Publishing Company	1572		15.00
" 14	George T. Tippin	1573		13.50
" 14	Howard Hackedorn	1574		13.00
" 14	Eva Kraus	1575		2.78
" 14	Wells, Fargo & Co., express	1576		15.92
" 14	Verdie Read	1577		12.49
" 14	E. A. Remley	1578		150.00
" 14	J. Kelly Wright	1579		212.96
" 14	Rev. Clair S. Adams	1580		12.74
" 14	Harry Nichols	1581		1.35
" 14	University Co-operative Store	1582		12.20
" 14	Jacob N. Mitchell	1583		47.49
" 14	B. P. Smoot	1584		64.72
" 14	A. W. Orr	1585		14.80
" 14	Charles F. Mitchell	1586		2.36
" 14	George W. Williams	1587		13.92
" 14	W. R. Wilkinson	1588		41.15
" 14	T. J. Hedrick	1589		29.50
" 14	W. A. Dallmeyer	1590		7.20
" 14	Rev. Clarence Hatfield	1591		23.00
" 14	W. A. Cochel	1592		18.25
" 14	S. M. Jordan	1593		2.84
" 14	R. M. Washburn	1594		36.18
" 14	W. B. Niles	1595		19.40
" 14	Mrs. Fannie Quick	1596		17.55
" 14	J. H. Brayton	1597		25.24
" 23	N. P. Jacobsen	1598		21.30
" 23	N. H. Gentry	1599		13.55
" 23	T. A. Nelson, Sr.	1600		10.00
" 23	Mrs. W. H. Charters	1601		15.00
" 23	T. B. Ingwerson	1602		25.00
" 23	Sam D. Williams	1603		10.00
" 23	B. O. Weller	1604		15.00
" 23	N. R. Williams	1605		25.00
" 23	Columbia Herald Newspaper Co.	1606		234.50
" 23	Henry Kirklin	1607		13.90
" 23	C. M. Barnes	1608		41.07
" 23	H. E. Keim	1609		9.00
" 23	St. Louis Button Company	1610		3.00
" 23	A. F. Foard	1611		1.00
" 24	J. H. J. Clare	1612		4.00
" 24	W. C. Swarner	1613		7.75
" 24	W. R. Cockefair	1614		10.00
" 24	E. W. Stephens Publishing Company	1615		6.00
" 24	R. B. Galbraith	1616		3.00
" 24	R. C. Lawry	1617		45.00

FARMERS' INSTITUTE—(Continued.)

Date.		Name.	War. No.	Dr.	Cr.
1913.					
Feb.	8	T. C. Wilson	1618		$6.05
"	8	C. F. Sapper	1619		4.00
"	8	E. R. Lake	1620		24.75
"	8	W. L. Nelson	1621		6.30
"	8	Edna D. Day	1622		14.15
"	8	Dr. H. J. Waters	1623		20.10
"	8	Mat S. Cohen	1624		50.00
"	8	Henry Steinmesch	1625		13.70
"	8	C. D. Bellows	1626		16.64
Feb.	8	By H. C. Duncan	1627		14.71
"	8	The Drug Shop	1628		9.10
"	8	Agricultural Experiment Station	1629		2.50
"	18	J. Kelly Wright	1630		283.56
"	18	J. N. Mitchell	1631		37.43
"	18	George W. Williams	1632		16.08
"	18	Western Union Telegraph Company	1633		1.60
"	18	T. C. Wilson	1634		8.55
"	18	Amer. Assc. Farmers' Inst. Workers	1635		5.00
Mar.	3	J. Kelly Wright	1636		56.66
"	3	R. L. Hill	1637		5.63
"	3	B. P. Smoot	1638		170.77
"	3	A. W. Orr	1639		135.00
"	7	R. L. Hill	1640		68.05
"	14	Watson Law Reporting Company	1641		161.40
"	21	W. L. Nelson	1642		6.70
"	27	T. C. Wilson	1643		83.09
"	27	J. Kelly Wright	1644		219.40
"	27	B. P. Smoot	1645		89.68
April	1	To requisition		$2,150.00	
"	9	By A. W. Orr	1646		126.91
"	9	Louise Stanley	1647		20.02
"	9	Mrs. Walter McNab Miller	1648		22.05
"	9	American Express Company	1649		6.61
"	9	Rev. H. B. Tierney	1650		16.14
"	9	E. W. Stephens Publishing Company	1651		1.50
May	1	A. W. Orr	1652		139.22
"	1	Lillian A. Vanatta	1653		3.85
"	1	H. L. Kempster	1654		4.02
"	1	J. Kelly Wright	1655		258.00
"	1	W. L. Nelson	1656		42.55
"	1	B. P. Smoot	1657		77.13
"	1	W. A. Bright	1658		25.00
"	1	A. W. Orr	1659		36.38
"	31	J. Kelly Wright	1660		214.56
"	31	Dr. P. F. Trowbridge	1661		4.47
"	31	J. N. Mitchell	1662		26.15
"	31	A. W. Orr	1663		119.44
June	30	To requisition		1,000.00	
"	30	By T. C. Wilson	1664		9.60
"	30	E. A. Trowbridge	1665		4.55
"	30	Missouri Valley Guide Company	1666		2.00
"	30	E. A. Remley	1667		75.00
"	30	A. W. Orr	1668		148.98
"	30	Mary Macrina Bell	1669		120.04
"	30	J. Kelly Wright	1670		221.86
July	10	W. L. Nelson	1671		7.35
"	28	T. C. Wilson	1672		22.53
"	28	J. Kelly Wright	1673		212.21
"	28	Macrina Bell	1674		123.44
"	28	W. L. Nelson	1675		6.28
"	30	To requisition		1,000.00	
"	31	By A. W. Orr	1676		100.00

FARMERS' INSTITUTE—(Continued).

Date.		Name.	War. No.	Dr.	Cr.
1913.					
July	31	F. L. Duley	1677		$12.00
“	31	J. N. Mitchell	1678		28.54
Aug.	4	Statesman Publishing Company	1679		6.00
“	18	A. W. Orr	1680		61.80
“	25	T. C. Wilson	1681		21.35
“	30	J. Kelly Wright	1682		217.12
“	30	B. P. Smoot	1683		27.44
“	30	A. W. Orr	1684		100.00
“	30	Dr. Walter McNab Miller	1685		6.66
“	30	Columbia Telephone Company	1686		10.65
“	30	J. H. Guitar, postmaster	1687		75.00
“	30	The Drug Shop	1688		131.80
“	30	F. L. Duley	1689		12.00
Sept.	10	E. A. Trowbridge	1690		2.44
“	10	Macrina Bell	1691		145.31
“	24	To requisition		$350.00	
“	24	By J. Kelly Wright	1692		248.20
“	29	W. D. McKee	1693		59.56
“	29	Macrina Bell	1694		124.47
“	29	Wells, Fargo & Company, express	1695		5.06
Oct.	8	Columbia Telephone Company	1696		6.40
“	8	E. W. Stephens Publishing Company	1697		15.50
“	8	Herald-Statesman Publishing Co.	1698		4.50
“	8	F. L. Duley	1699		12.00
“	16	Herald-Statesman Publishing Co.	1700		42.50
“	17	T. C. Wilson	1701		28.34
“	25	To requisition		200.00	
“	31	By Columbia Telephone Company	1702		11.55
“	31	F. L. Duley	1703		12.00
“	31	T. C. Wilson	1704		48.15
“	31	J. Kelly Wright	1705		276.92
“	31	B. P. Smoot	1706		96.72
“	31	Bab Bell	1707		192.95
“	31	C. L. White	1708		71.54
“	31	George Williams	1709		62.72
Nov.	13	M., K. & T. Railway Company	1710		8.84
“	13	Business System Store	1711		75.00
“	13	R. H. Hudelson	1712		3.74
“	13	The Douglass Studio	1713		3.00
“	13	C. B. Hutchison	1714		14.48
“	13	T. R. Douglass	1715		16.79
“	13	T. C. Wilson	1716		44.79
“	13	W. L. Nelson	1717		11.78
“	24	J. Kelly Wright	1718		289.21
“	24	R. R. Hudelson	1719		20.06
“	24	Amer. Assc. Farmers' Inst. Workers	1720		5.00
“	24	Bab Bell	1721		218.76
“	24	C. B. Hutchison	1722		8.64
“	24	H. L. Kempster	1723		3.20
“	24	A. J. Meyer	1724		27.29
“	25	To requisition		1,000.00	
Dec.	5	By B. P. Smoot	1725		169.72
“	5	Carl L. White	1726		54.52
“	5	J. H. Guitar, postmaster	1727		75.00
“	5	E. W. Stephens Publishing Company	1728		25.00
“	5	W. L. Nelson	1729		2.84
“	5	H. L. Kempster	1730		22.77
“	17	T. C. Wilson	1731		15.03
“	20	J. H. Guitar, postmaster	1732		100.00
“	22	To requisition		2,500.00	
“	29	By J. Kelly Wright	1733		301.55
“	29	H. L. Kempster	1734		4.28

FARMERS INSTITUTE—(Continued.)

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Dec. 29	C. B. Hutchison	1735		$14.54
" 29	C. A. Webster	1736		6.48
" 29	H. L. Kempster	1737		5.77
" 29	Bab Bell	1738		221.00
" 29	Rufus Jackson	1739		9.44
" 29	Wabash Railroad Company	1740		1.19
" 29	Eloise Kneisley	1741		44.41
" 29	Katherine Price	1742		21.15
" 29	B. P. Smoot	1743		213.95
" 29	S. M. Jordan	1744		24.04
" 29	T. C. Wilson	1745		13.84
" 31	Western Union Telegraph Company	1746		2.35
Jan. 12	Balance			1,321.99
	Totals		$11,006.73	$11,006.73

OFFICE EXPENSE.

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Jan. 11	To balance on hand		$.02	
April 1	To requisition		125.00	
" 9	By University Co-operative Store	895		$20.35
" 9	Newman Hardware Company	896		6.35
" 9	E. W. Stephens Publishing Company	897		10.70
" 9	The Statesman Publishing Company	898		45.50
May 1	J. W. Butler Paper Company	899		7.35
" 1	F. L. Duley	900		24.00
" 8	J. W. Butler Paper Company	901		32.30
" 27	To requisition		100.00	
" 31	By Statesman Publishing Company	902		113.75
" 31	F. L. Duley	903		12.00
" 31	University Co-operative Store	904		20.90
June 30	To requisition		125.00	
" 30	By J. W. Butler Paper Company	905		16.75
" 30	Libby & Williams Paper Company	906		24.01
" 30	F. L. Duley	907		12.00
" 30	Sears, Roebuck & Company	908		3.40
" 30	Wabash Railroad Company	909		1.67
July 7	J. W. Butler Paper Company	910		10.75
" 30	To requisition		100.00	
" 31	By Sears, Roebuck & Company	911		8.00
Aug. 30	L. C. Smith & Bros. Typewriter Co.	912		7.00
" 30	J. W. Comer	913		8.00
Oct. 8	University Co-operative Store	914		7.00
Nov. 13	Libby & Williams Paper Company	915		8.60
" 13	J. W. Butler Paper Company	916		15.25
" 25	To requisition		150.00	
Dec. 5	By Business System Store	917		75.00
" 5	F. L. Duley	918		12.00
" 31	University Co-operative Store	919		4.10
" 31	F. L. Duley	920		12.00
" 31	Business System Store	921		75.00
Jan. 12	Balance			6.29
	Totals		$600.02	$600.02

EXTENSION COURSE IN AGRICULTURE.

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Jan. 11	To balance on hand		$478.44	
“ 24	By Nelle Nesbitt	122		$131.48
Mar. 7	Nelle Nesbitt	123		152.45
May 8	Nelle Nesbitt	124		100.00
“ 8	E. A. Remley	125		94.51
	Totals		$478.44	$478.44

STATE VETERINARY FUND.

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Jan. 11	By overdraft			$1,668.24
“ 14	R. B. Love	2955		23.35
“ 14	H. C. Ward	2956		216.20
“ 14	L. D. Brown	2957		154.01
“ 14	S. Sheldon	2958		192.50
“ 14	W. B. Kirtley	2959		51.53
“ 14	Ed Moore	2960		85.49
“ 14	H. C. Tuck	2961		223.31
“ 14	W. C. Sorber	2962		10.00
“ 14	H. H. Sebaugh	2963		9.22
“ 14	A. T. Kinsley	2964		10.77
Mar. 21	Walter E. Neil	2965		5.00
“ 21	D. F. Luckey	2966		16.64
“ 21	E. B. Ward	2967		6.00
“ 21	H. J. Sebaugh	2968		9.41
“ 21	A. T. Kinsley	2969		9.56
“ 21	H. C. Ward	2970		228.05
“ 21	H. C. Tuck	2971		219.30
“ 21	L. D. Brown	2972		165.52
“ 21	W. C. Davidson	2973		1.50
“ 21	F. W. O'Brien	2974		8.80
“ 21	A. T. Kinsley	2975		40.70
“ 21	W. F. Berry	2976		11.00
“ 21	W. B. Kirtley	2977	Canceled.	
“ 21	J. C. Humphreys	2978		21.60
“ 21	L. D. Brown	2979		155.36
“ 21	S. Sheldon	2980		217.73
“ 21	H. C. Ward	2981		274.29
“ 21	H. C. Tuck	2982		256.38
“ 21	S. Sheldon	2983		182.29
April 1	To requisition		$3,000.00	
“ 9	By S. Sheldon	2984		191.09
“ 9	Statesman Publishing Company	2985		33.75
“ 9	W. B. Kirtley	2986		151.51
“ 9	L. D. Brown	2987		182.21
“ 9	Wells, Fargo & Company	2988		11.87
“ 9	H. C. Tuck	2989		236.60
“ 9	H. C. Ward	2990		240.45
“ 9	Underwood Typewriter Company	2991		68.00
“ 9	E. W. Stephens Publishing Company	2992		37.50
“ 9	J. W. Butler Paper Company	2993	Transf'd to office Exp.	
“ 9	C. H. Dana	2994		143.95
“ 9	Western Union Telegraph Company	2995		2.03
“ 9	W. C. Sorber	2996		10.00
“ 28	To requisition		1,200.00	

STATE VETERINARY FUND—(Continued).

Date.		Name.	War. No.	Dr.	Cr.
1913.					
May	1	By Lyman D. Brown	2997		$200.64
"	1	S. Sheldon	2998		158.60
"	1	George W. Leber	2999		25.00
"	1	A. T. Kinsley	3000		30.50
"	1	Horace Bradley	3001		20.89
"	1	E. W. Stephens Publishing Company	3002		29.50
"	1	Willm. Cooper & Nephews	3003		11.40
"	1	W. B. Kirtley	3004		50.00
"	1	W. A. Bright	3005		25.00
"	1	H. C. Tuck	3006		255.20
"	8	H. C. Ward	3007		266.60
"	8	A. T. Kinsley	3008		46.03
"	8	The Missouri Store	3009		1.35
"	19	W. C. Sorber	3010		20.00
"	19	G. P. Gant	3011		10.00
"	27	To requisition		$1,000.00	
"	31	By S. Sheldon	3012		221.98
"	31	W. B. Kirtley	3013		50.00
"	31	L. D. Brown	3014		216.85
"	31	Wells, Fargo & Company, express	3015		13.18
"	31	T. J. Hedrick	3016		22.80
"	31	T. C. Wilson	3017		23.15
"	31	H. C. Duncan	3018		7.35
"	31	E. A. Remley	3019		75.00
"	31	Fred T. Munson	3020		23.10
"	31	H. C. Tuck	3021		239.95
"	31	Columbia Telephone Company	3022		12.65
May	31	By Western Union Telegraph Company	3023		2.05
June	30	To requisition		1,000.00	
"	30	By Willm. Cooper & Nephews	3024		11.40
"	30	O. U. Lash	3025		18.84
"	30	L. G. Clark	3026		18.60
"	30	Penn's Pharmacy	3027		20.75
"	30	H. C. Ward	3028		209.72
"	30	Horace Bradley	3029		26.64
"	30	W. A. Parker	3030		26.00
"	30	T. C. Wilson	3031		26.17
"	30	G. P. Gant	3032		14.00
"	30	W. B. Kirtley	3033		50.00
"	30	S. Sheldon	3034		196.27
"	30	E. V. Phillips Company	3035		8.00
"	30	H. C. Tuck	3036		247.10
"	30	Wells, Fargo & Company, express	3037		4.16
July	7	A. J. Munn	3038		30.82
"	7	Lyman D. Brown	3039		226.65
"	7	H. C. Ward	3040		227.18
"	7	American Express Company	3041		1.60
"	7	F. L. Cissell	3042		15.00
"	7	Statesman Publishing Company	3043		6.00
"	9	W. J. Houser	3044		10.00
"	9	C. H. Dana	3045		140.50
"	9	A. J. Munn	3046		7.50
"	28	T. C. Wilson	3047		11.38
"	28	The W. G. Cleveland Company	3048		12.00
"	28	L. G. Clark	3049		39.01
"	28	W. C. Sorber	3050		5.00
"	28	W. B. Kirtley	3051		50.00
"	28	Olin T. Murphy	3052		5.96
"	28	S. Sheldon	3053		239.99
"	30	To requisition		1,300.00	
"	31	By H. C. Ward	3054		227.25

STATE VETERINARY FUND—(Continued).

Date.		Name.	War. No.	Dr.	Cr.
1913.					
Aug.	4	American Express Company	3055		$10.75
"	4	Lyman D. Brown	3056		211.43
"	4	H. C. Tuck	3057		236.14
"	4	Columbia Telephone Company	3058		8.85
"	4	A. T. Kinsley	3059		30.50
"	4	W. A. Parker	3060		5.65
"	18	F. M. Cahill	3061		71.08
"	26	To requisition		$1,500.00	
"	26	By W. R. Wilkinson	3062		15.80
"	26	Mack V. Thralls	3063		9.20
"	26	J. H. Brayton	3064		12.06
"	26	John Parker	3065		17.35
"	26	E. L. Newlon	3066		23.06
"	26	C. M. Barnes	3067		25.50
"	26	A. T. Nelson	3068		19.05
"	26	E. E. Swink	3069		17.00
"	26	H. C. Duncan	3070		18.92
"	26	C. D. Bellows	3071		20.25
"	29	W. B. Kirtley	3072		50.00
"	30	H. C. Ward	3073		215.22
"	30	R. B. Love	3074		23.38
"	30	F. B. Mumford	3075		6.88
"	30	L. G. Clark	3076		20.53
"	30	E. W. Stephens Publishing Company	3077		8.50
"	30	Willm. Cooper & Nephews	3078		12.00
"	30	J. J. Wakefield	3079		7.09
"	30	Western Union Telegraph Company	3080		4.10
"	30	T. C. Wilson	3081		17.62
"	30	L. D. Brown	3082		227.91
Sept.	10	H. C. Tuck	3083		279.40
"	10	R. B. Love	3084		10.00
"	10	E. M. Hendy	3085		9.00
"	24	To requisition		1,000.00	
"	24	By D. F. Luckey	3086		196.20
"	29	W. B. Kirtley	3087		1.67
"	29	A. T. Kinsley	3088		7.50
"	29	P. H. Gregory	3089		5.88
"	29	B. B. Wright	3090		50.00
"	29	W. C. Sorber	3091		5.00
"	29	S. Sheldon	3092		210.74
"	29	W. C. Sorber	3093		2.50
Oct.	8	W. C. Sorber	3094		5.00
"	8	L. D. Brown	3095		219.55
"	8	H. C. Tuck	3096		257.00
"	8	University of Missouri	3097		1.15
"	8	H. C. Ward	3098		236.43
"	8	L. G. Clark	3099		12.45
"	8	W. A. Parker	3100		22.95
"	8	F. W. O'Brien	3101		45.00
"	8	J. H. Guitar	3102		75.00
"	16	Columbia Telephone Company	3103		1.50
"	25	To requisition		1,500.00	
"	31	By D. F. Luckey	3104		210.71
"	31	B. B. Wright	3105		50.00
"	31	Western Union Telegraph Company	3106		2.14
"	31	E. W. Stephens Publishing Company	3107		7.50
"	31	C. H. Dana	3108		4.80
"	31	L. G. Clark	3109		16.66
"	31	H. C. Tuck	3110		237.32
Nov.	13	A. T. Kinsley	3111		5.00
"	13	W. C. Sorber	3112	Canceled.	

STATE VETERINARY FUND—(Continued.)

Date.	Name.	War. No.	Dr.	Cr.
1913.				
Nov. 13	H. C. Ward	3113		$51.15
" 13	Elmer Johnson	3114		47.00
" 13	W. B. Welch	3115		10.00
" 13	S. Black	3116		8.00
" 13	Walter J. Lopp	3117		85.10
" 13	W. C. Sorber	3118		12.95
" 13	Lyman D. Brown	3119		212.60
" 13	F. A. Wolff	3120		18.00
" 13	F. W. O'Brien	3121		27.50
" 13	E. W. Stephens Publishing Company	3122		40.00
" 13	J. K. Woods	3123		134.29
" 25	To requisition		$1,500.00	
Dec. 5	By George W. Leber	3124		12.00
" 5	James Cullison	3125		7.00
" 5	D. E. Crites	3126		24.00
" 5	A. J. Munn	3127		6.50
" 5	Horace Bradley	3128		5.00
" 5	J. K. Woods	3129		202.52
" 5	J. R. Seipel	3130		14.82
" 5	Walter J. Lopp	3131		24.22
" 5	D. F. Luckey	3132		208.58
" 5	B. B. Wright	3133		50.00
" 5	H. C. Tuck	3134		271.06
" 5	Elmer J. Johnston	3135		125.00
" 5	Lyman D. Brown	3136		216.64
" 5	Western Union Telegraph Company	3137		1.60
" 5	Columbia Telephone Company	3138		8.90
" 5	American Express Company	3139		10.64
" 22	To requisition		1,000.00	
" 29	By P. P. Lewis	3140		26.65
" 29	A. T. Kinsley	3141		13.50
" 29	A. D. Glover	3142		23.54
" 29	F. W. O'Brien	3143		15.00
" 29	Herald-Statesman Company	3144		18.00
" 29	B. B. Wright	3145		50.00
" 29	D. F. Luckey	3146		222.91
" 31	Lyman D. Brown	3147		178.74
" 31	F. A. Wolfe	3148		22.73
" 31	J. K. Woods	3149		204.64
" 31	George W. Leber	3150		11.80
" 31	Wells, Fargo & Company, express	3151		4.20
" 31	Columbia Telephone Company	3152		8.10
" 31	J. H. Guitar, postmaster	3153		75.00
	Deficiency for 1912		2,634.51	
Jan. 12	Balance			415.79
	Totals		$16,634.51	$16,634.51

APIARY INSPECTION.

Date.		Name.	War. No.	Dr.	Cr.
1913.					
April	1	To requisition		$400.00	
May	31	By M. E. Darby	45		$201.35
July	7	M. E. Darby	46		152.75
"	30	To requisition		200.00	
"	31	By M. E. Darby	47		137.94
Aug.	26	To requisition		100.00	
"	30	By M. E. Darby	48		200.58
Sept.	24	To requisition		300.00	
"	29	By M. E. Darby	49		180.65
Oct.	25	To requisition		100.00	
Nov.	13	By M. E. Darby	50		160.55
"	25	To requisition		100.00	
Jan.	12	By balance			166.18
		Totals		$1,200.00	$1,200.00

STATE HIGHWAY ENGINEER.

Date.		Name.	War. No.	Dr.	Cr.
1913.					
Jan.	11	By overdraft			$2,423.60
"	14	W. C. Davidson	515		130.03
"	14	Curtis Hill	516		231.66
"	14	Mrs. L. A. Bell	517		28.00
"	14	H. A. Collier	518		20.00
"	14	A. L. Jenks	519		10.00
"	14	L. Ruckert & Company	520		2.45
"	14	Miss C. L. Carlstead	521		5.35
April	1	To requisition		$2,851.09	
Mar.	21	By Mrs. L. A. Bell	522		25.00
"	21	W. C. Davidson	523		102.97
"	21	Curtis Hill	524		242.01
"	21	Curtis Hill	525		240.54
"	21	W. C. Davidson	526		121.40
April	1	To requisition		1,500.00	
"	9	By Columbia Telephone Company	527		14.65
"	9	Curtis Hill	528		277.20
"	9	L. Ruckert & Company	529		1.40
"	9	W. C. Davidson	530		146.36
"	9	Underwood Typewriter Company	531		35.00
"	9	E. A. Remley	532		75.00
May	1	W. A. Bright	533		25.00
"	1	L. Ruckert & Company	534		16.95
Jan.	12	Balance			176.49
		Totals		$4,351.09	$4,351.09

SUMMARY OF SECRETARY'S FINANCIAL STATEMENT.

PRINTING AND DISTRIBUTION OF ANNUAL REPORT FUND.

Date.		Dr.	Cr.
1913.			
Jan. 11, 1913	To balance in our treasury	$337.40	
May 1, 1913	To appropriation	15,000.00	
Jan. 11, 1913, to Jan. 12, 1914	By warrants drawn on Treasurer of Board of Agriculture		$2,881.55
Jan. 12, 1914	By amount paid for printing and binding, account with printing commission		4,759.57
Jan. 12, 1914	By balance in treasury of Board of Agriculture		355.85
Jan. 12, 1914	By balance in State Treasury		7,340.43
	Totals	$15,337.40	$15,337.40

MONTHLY CROP REPORT FUND.

Date.		Dr.	Cr.
Jan. 11, 1913	To balance in treasury of Board of Agriculture	$251.48	
May 1, 1913	To appropriation	4,000.00	
	To overcharge for 1912	64.30	
Jan. 11, 1913, to Jan. 12, 1914	By warrants drawn on Treasurer of Board of Agriculture		$1,458.21
Jan. 12, 1914	By amount paid for printing, account with printing commission		2,559.22
Jan. 12, 1914	By balance in State Treasury		405.08
Jan. 12, 1914	To overdraft in treasury of State Board of Agriculture	106.73	
	Totals	$1,422.51	$4,422.51

EXPENSE OF MEMBERS FUND.

Date.		Dr.	Cr.
Jan. 11, 1913	To balance in treasury of Board of Agriculture	$168.07	
May 1, 1913	To appropriation	2,000.00	
Jan. 11, 1913, to Jan. 12, 1914	By warrants drawn on Treasurer of Board of Agriculture		$1,235.52
Jan. 12, 1914	By balance in treasury of Board of Agriculture		332.55
Jan. 12, 1914	By balance in State Treasury		600.00
	Totals	$2,168.07	$2,168.07

FARMERS' INSTITUTE FUND.

Date.		Dr.	Cr.
Jan. 11, 1913	To balance in treasury of Board of Agriculture	$2,806.73	
May 1, 1913	To appropriation	17,500.00	
Jan. 11, 1913, to Jan. 12, 1914	By warrants drawn on Treasurer of Board of Agriculture		$9,684.74
Jan. 12, 1914	By amount paid for printing and binding, account with printing commission		110.94
Jan. 12, 1914	By balance in treasury of Board of Agriculture		1,321.99
Jan. 12, 1914	By balance in State Treasury		9,189.06
	Totals	$20,306.73	$20,306.73

OFFICE EXPENSE.

Date.		Dr.	Cr.
Jan. 11, 1913	To balance in treasury of Board of Agriculture	$.02	
May 1, 1913	To appropriation	1,000.00	
Jan. 11, 1913 to Jan. 12, 1914	By warrants drawn on Treasurer of Board of Agriculture		$593.73
Jan. 12, 1914	By balance in treasury of Board of Agriculture		6.29
Jan. 12, 1914	By balance in State Treasury		400.00
	Totals	$1,000.02	$1,000.02

EXTENSION COURSE IN AGRICULTURE.

Date.		Dr.	Cr.
Jan. 11, 1913	To balance in treasury of Board of Agriculture	$478.44	
Jan. 11, 1913, to Jan. 12, 1914	By warrants drawn on Treasurer of Board of Agriculture		$478.44
	Totals	$478.44	$478.44

STATE VETERINARY FUND.

Date.		Dr.	Cr.
Jan. 11, 1913......	By overdraft in treasury of Board of Agriculture...........................	....	$1,668.24
May 1, 1913......	To appropriation.....................	$25,000.00	
Jan. 11, 1913, to Jan. 12, 1914.........	By warrants drawn on Treasurer of Board of Agriculture....................	....	14,550.48
Jan. 12, 1914......	By balance in treasury of Board of Agriculture...........................	....	415.79
Jan. 12, 1914......	By balance in State Treasury...........	....	11,000.00
	To deficiency for 1912..................	2,634.51	
	Totals........................	$27,634.51	$27,634.51

APIARY INSPECTION.

Date.		Dr.	Cr.
May 1, 1913.......	To appropriation.....................	$2,000.00	
Jan. 11, 1913, to Jan. 12, 1914.........	By warrants drawn on Treasurer of Board of Agriculture....................	....	$1,033.82
Jan. 12, 1914.......	By balance in treasury of Board of Agriculture...........................	....	166.18
Jan. 12, 1914.......	By balance in State Treasury...........	....	800.00
	Totals........................	$2,000.00	$2,000.00

STATE HIGHWAY ENGINEER.

Date.		Dr.	Cr.
Jan. 11, 1913......	By overdraft in treasury of Board of Agriculture...........................	....	$2,423.60
May 1, 1913......	To appropriation.....................	$4,351.09	
Jan. 11, 1913, to Jan. 12, 1914.........	By warrants drawn on Treasurer of Board of Agriculture....................	....	1,751.00
Jan. 12, 1914.......	By balance in treasury of Board of Agriculture...........................	....	176.49
	Totals........................	$4,351.09	$4,351.09

REPORT OF THE TREASURER.

To the State Board of Agriculture:

I, W. A. Bright, Treasurer of the Board of Agriculture, submit the following report of the money received from last report and from the State Treasurer, including balances, and the amounts paid out on warrants presented against the several funds of the Board of Agriculture and the balances now on hand, January 12, 1914:

APAIRY INSPECTION.

Date.		Dr.	Cr.
Jan. 2, 1913	To State warrant	$400.00	
Aug. 5, 1913	To State warrant	200.00	
Sept. 2, 1913	To State warrant	100.00	
Oct. 1, 1913	To State warrant	300.00	
Nov. 3, 1913	To State warrant	100.00	
Dec. 2, 1913	To State warrant	100.00	
Jan. 12, 1914	By warrants paid and canceled		$1,033.82
Jan. 12, 1914	By balance		166.18
	Totals	$1,200.00	$1,200.00

DISTRIBUTION OF ANNUAL REPORT.

Date.		Dr.	Cr.
Jan. 11, 1913	To balance	$337.40	
May 5, 1913	To State warrant	200.00	
June 4, 1913	To State warrant	200.00	
Aug. 5, 1913	To State warrant	500.00	
Sept. 2, 1913	To State warrant	1.000.00	
Oct. 1, 1913	To State warrant	1,000.00	
Jan. 12, 1914	By warrants paid and canceled		$2,880.05
Jan. 12, 1914	By balance		357.35
	Totals	$3,237.40	$3,237.40

MONTHLY CROP REPORT.

Date.		Dr.	Cr.
Jan. 11, 1913......	To balance..............................	$251.48	
May 1, 1913......	To State warrant......................	200.00	
Aug. 4, 1913......	To State warrant......................	300.00	
Oct. 1, 1913......	To State warrant......................	200.00	
Dec. 2, 1913......	To State warrant......................	200.00	
Jan. 2, 1914......	To State warrant......................	200.00	
Jan. 12, 1914......	To overdraft............................	41.17	
Jan. 12, 1914......	By warrants paid and canceled..........	....	$1,392.65
	Totals	$1,392.65	$1,392.65

OFFICE EXPENSE.

Date.		Dr.	Cr.
Jan. 11, 1913......	To balance..............................	$.02	
May 1, 1913......	To State warrant......................	125.00	
June 4, 1913......	To State warrant......................	100.00	
July 5, 1913......	To State warrant......................	125.00	
Aug. 5, 1913......	To State warrant......................	100.00	
Dec. 2, 1913......	To State warrant......................	150.00	
Jan. 12, 1914......	By warrants paid and canceled..........	....	$593.73
Jan. 12, 1914......	By balance..............................	....	6.29
	Totals..........................	$600.02	$600.02

EXPENSE OF MEMBERS.

Date.		Dr.	Cr.
Jan. 11, 1913......	To balance..............................	$168.07	
May 1, 1913......	To State warrant......................	300.00	
May 6, 1913......	To State warrant......................	100.00	
June 4, 1913......	To State warrant......................	200.00	
July 5, 1913......	To State warrant......................	100.00	
Aug. 5, 1913......	To State warrant......................	200.00	
Nov. 3, 1913......	To State warrant......................	100.00	
Dec. 2, 1913......	To State warrant......................	200.00	
Jan. 2, 1914......	To State warrant......................	200.00	
Jan. 12, 1914......	By warrants paid and canceled..........	....	$1,229.12
Jan. 12, 1914......	By balance..............................	....	338.95
	Totals..........................	$1,568.07	$1,568.07

EXTENSION COURSE.

Date.		Dr.	Cr.
Jan. 11, 1913......	To balance..............................	$478.44	
Jan. 12, 1914......	By warrants paid and canceled..........	....	$478.44
	Totals..........................	$478.44	$478.44

FARMERS' INSTITUTE

Date.		Dr.	Cr.
Jan. 11, 1913......	To balance..........................	$3,036.77	
May 1, 1913......	To State warrant....................	2,150.00	
July 5, 1913......	To State warrant....................	1,000,00	
Aug. 5, 1913......	To State warrant....................	1,000.00	
Oct. 1, 1913......	To State warrant....................	350.00	
Nov. 3, 1913......	To State warrant....................	200.00	
Dec. 2, 1913......	To State warrant....................	1,000.00	
Jan. 2, 1914......	To State warrant....................	2,500.00	
Jan. 12, 1914......	By warrants paid and canceled.........	....	$9,904.73
Jan. 12, 1914......	By balance..........................	....	1,332.04
	Totals..........................	$11, 236.77	$11,236.77

STATE HIGHWAY ENGINEER.

Date.		Dr.	Cr.
Jan. 11, 1913......	By overdraft..........................	....	$197.48
May 1, 1913......	To State warrant....................	$4,351.09	
Jan. 12, 1914......	By warrants paid and canceled.........	....	3,977.11
Jan. 12, 1914......	By balance..........................	....	176.50
	Totals..........................	$4,351.09	$4,351.09

VETERINARY SERVICE.

Date.		Dr.	Cr.
Jan. 11, 1913......	By overdraft..........................	....	$10.11
May 1, 1913......	To State warrant....................	$3,000.00	
May 6, 1913......	To State warrant....................	1,200.00	
June 4, 1913......	To State warrant....................	1,000.00	
July 5, 1913......	To State warrant....................	1,000.00	
Aug. 5, 1913......	To State warrant....................	1,300.00	
Sept. 2, 1913......	To State warrant....................	1,500.00	
Oct. 1, 1913......	To State warrant....................	1,000.00	
Nov. 3, 1913......	To State warrant....................	1,500.00	
Dec. 2, 1913......	To State warrant....................	1,500.00	
Jan. 2, 1914......	To State warrant....................	1,000.00	
Jan. 12, 1914......	By warrants paid and canceled.........	....	13,529.56
Jan. 12, 1914......	By balance..........................	....	460.33
	Totals..........................	$14,000.00	$14,000.00

Respectfully submitted,
W. A. Bright, Treasurer.

REPORT OF S. SHELDON, STATE VETERINARIAN.

Mr. President and Gentlemen of the Missouri State Board of Agriculture:

Dr. S. Sheldon.

I beg to submit that part of my annual report of the work covered by this department from January 1, 1913, to September 1, 1913; also recommendations for the future work of this department.

It is useless to state that we are again placed at a serious disadvantage in our sanitary control work by an unjust oversight of the last Legislature in refusing to grant the necessary appropriation that was recommended by you for this department. Just how long the live stock industry of this State will stand for such neglect at the hands of our lawmakers remains to be seen. We are compelled to turn down important calls almost daily in order that we may not exceed the meager allowance granted this department by the last Legislature. We would most heartily recommend that you again ask for an appropriation of not less than $50,000, and that each member in his legislative district present the needs of this department to his State Senators and Representatives and urge on them that the above appropriation be secured. If the matter is properly presented there is no question as to the result. When it was found that we would have no additional funds to carry on the work of this department we were compelled to make radical changes in our plan of action for the next two years. Much of the important work that we had under consideration we were compelled to give up, but trust that at some future time it may be carried out.

We would most heartily recommend that the salary of our successor be increased to not less than $3,000 per annum and that the salary of the assistants who have worked so faithfully for the protection of the live stock industry be increased from $1,500 to $1,800 per year. We would further recommend that if it was found that the State Veterinarian and his assistants were not earning more than the salary recommended above, that they be promptly discharged. We believe that the State should receive the best possible service available. When we stop to consider that a single county can afford to pay a student $2,500 per year to assist in farm work, we feel that the State Veterinarian, with 114 times the responsibility, is entitled to at least $3,000 per year.

Our sanitary bill, introduced at the last session of the Legislature, governing the importation of live stock into Missouri, failed to become a law. There was no particular opposition to the bill; in fact, all agreed that it was a splendid measure and would have been enacted into a law had it been introduced earlier in the session. This bill, or a similar one, should be introduced early in the session at the next Legislature and supported by each of you. At present the statutory protection afforded our live stock industry is insufficient and not in keeping with other progressive states. There was introduced at the last session of the Legislature a new veterinary practice act repealing the present law, which has become obsolete. The new bill should receive your support and encouragement at the next session of the Legislature, as it guarantees a much higher class of veterinary service and thereby increases the protection to the live stock industry of the State. This bill should be introduced early and each of you should be provided with a copy. Among other important features, you will find that it does away with the abominable practice of registered veterinarians acting for quacks in order that they may evade the law. It also provides for revoking the license of any veterinarian who issues fake or fraudulent health certificates, which has caused the department so much trouble in the past.

DISEASES OF SHEEP.

With the exception of scabies, Missouri sheep have been remarkably free from disease. We have not received a single report of foot rot, lip and leg disease or stomach worms. County quarantine, we believe, is the solution of scab eradication in sheep. The above disease will show an increase over last year; in fact, we believe that the 27 shipments of sheep to the public stockyards during the past year, infected with this disease, is certainly sufficient to make us take notice of the above disease that we have to contend with. At a meeting of the Board of Agriculture at Jefferson City on August 1st we asked for permission to place a quarantine against Laclede, Camden and

Wright counties, which was granted by you, and we feel that this move should eradicate scabies from the three named counties in a comparatively short time. As soon as we can spare one of our assistants from the other important work that we are now interested in, we shall start to co-operate with the Bureau of Animal Industry, and shall expect much good to be accomplished in the eradication of this disease. In our annual report for 1912 we recommended that no sheep be released from quarantine that were affected with scabies unless they were dipped in the lime and sulphur or nicotine dip made after the government formula. However, we have modified this rule in one instance by allowing one firm manufacturing the cresol dip to supply the Kansas City stockyards with dip for the coming year. They agree, however, to remunerate the State of Missouri for any loss occurring where sheep have been dipped in the above preparation and the disease has not been entirely eradicated. Early in March of this year as a matter of economy we decided to place one of our deputies in charge of scab eradication work in the counties of Howard, Shelby and Monroe. Dr. Munn of Fayette, Mo., was instructed to look after the infection that might exist in Howard county, Dr. Poage of Shelbina was instructed to look after Shelby county and Dr. Stuart of Paris was appointed to cover Monroe county. The work of each of the above veterinarians has been entirely satisfactory, and it has been carried on with very little expense to the State. We believe that the above plan could be enlarged upon the coming year with splendid results.

GLANDERS.

Glanders will show a decrease again this year in the number of cases reported. We have received reports of only four cases in Kansas City for the past seven months of this year, against 24 for the entire 12 months of last year. It is interesting to note the continued decrease of glanders in Kansas City since the closing of the open drinking fountain. However, in spite of the above fact, there is some agitation at the present time to reopen them, due, perhaps, to commercial interests trying to place a patent fountain on the market. We present herewith the report of cases in Kansas City for the past ten years, which is interesting:

1903—165
1904—295
1905—115
1906— 81
1907— 93
1908—105
1909— 67
1910— 86
1911— 56
1912— 24
1913—4 cases
and 2 suspects.

With the above results before you, I would recommend a quarantine against Kansas City for the protection of the rest of the State should the disease-spreading fountains again be installed. St. Louis unquestionably has many cases of glanders that are not reported to this department. This is perhaps due to the carelessness or indifference of the practicing veterinarians of St. Louis. As soon as funds are available or can be spared from other important work, St. Louis should receive attention. A strict sanitary law on our statute books requiring the veterinary inspection of all horses imported into this State, we believe, would entirely eradicate glanders from Missouri, and within the short space of ten years it would be practically unknown.

HOG CHOLERA.

Hog cholera is again prevalent over the entire State. However, we do not believe it will ever become as widespread as it was during 1912, for the following reasons: First, the administration of the double or simultaneous method immunizes hogs, it is believed, for life. The above method is becoming more and more popular each day, and the farsighted farmer and hog raiser will use this method to the exclusion of the single or serum alone method. The results secured by the simultaneous method warrant its continued use in the eradication of this very important disease. The fact that the serum alone method creates an immunity of from three to six weeks makes constant revaccination necessary in order to secure protection on account of the period of immunity being so short and the danger of reinfection so great.

We again wish to direct your attention to the second recommendation in our last annual report when we urged that all plants engaged in the manufacture of hog cholera serum doing an interstate business be placed under the supervision of the Bureau of Animal Industry. This has been accomplished, but unfortunately the State failed to enact a law providing for the state supervision of plants distributing serum in this State. This is certainly unfortunate for hog producers, as no plant should be permitted to operate in this State that is unable or unwilling to comply with the government requirements. The section governing the disposition of the carcasses of hogs that have died of contagious diseases was changed. They must now be burned or buried under the directions of the State Veterinarian. Unfortunately, the duty of enforcing this amendment was placed upon this department and no funds provided for carrying it out.

In the latter part of May of this year we received information from outside sources that there was a possible chance to secure one of the three counties to be selected in each of three states to be used as a demonstration for the eradication of hog cholera by the Bureau of Animal Industry co-operating with this department. I at once informed your Secretary, and by the active co-operation of the two departments we were enabled to have Pettis county, Missouri, selected for demonstration purposes. We sincerely trust that this demonstration will prove of much benefit to the farmers of Missouri in the eradication of hog cholera.

From time to time applications have been made to this office for the movement of hogs from the public stockyards at Kansas City and St. Joseph back to the country again for feeding purposes. In June of this year a committee was appointed to draw up rules and regulations whereby stock hogs could be safely moved back to the country again. After an inspection of the St. Joseph and Kansas City stockyards a meeting was held in Kansas City and rules and regulations adopted which at the present seem rather stringent, as very few have attempted to comply with the requirements. We believe that this is a step in the right direction and that the rules can be modified and stock hogs moved to the country again with safety. We suggest that this receive your earnest attention and consideration, as unquestionably it will be of material assistance to the hog raisers of this State.

RABIES.

The State is again remarkably free from rabies. In fact, no cases have been reported for the past seven months of this year.

TEXAS FEVER.

In our last annual report we recommended that the state and federal quarantine against Newton, McDonald and Oregon counties be released. We have caused frequent inspections to be made of the above named counties, which early in the season were placed under the supervision of Dr. H. C. Tuck, one of our field veterinarians, and Mr. Roark, acting for the Bureau of Animal Industry. Very little infection has been found up to the present time in the above named counties, and they should remain free from ticks unless infection is introduced from outside sources. Dr. L. D. Brown, another of our field veterinarians, was sent to Ripley county with instructions to place the county in a condition where it might be safely released at the end of this calendar year. The Bureau of Animal Industry supplied Mr. H. D. Crane to assist Dr. Brown in tick eradication work and the work has proceeded admirably; in fact, from reports at hand, Ripley county can be safely released from quarantine at the end of the present season. The State is certainly under many obligations to the Bureau of Animal Industry and Drs. Tuck and Brown for the splendid service rendered the State in the tick eradication work.

TUBERCULOSIS.

This is unquestionably one of the most serious diseases with which we have to deal. Public sentiment demands that we continue the splendid fight started by this department some years ago by my predecessor. Since our last report all dairies supplying Springfield milk or butter have been tested, also many herds in the vicinity of Mexico. A retest was ordered for Columbia, with the result that one splendid dairy herd was found to be badly infected with tuberculosis. We would especially direct your attention to the herd above referred to as all herds were tested in 1911 in and around Columbia and a retest made in 1912, yet we found that the infection was introduced from some outside source. It is certainly gratifying to note that no tuberculosis was found in any herd save the one mentioned, where 24 head were quarantined. Several herds have been tested in the vicinity of St. Louis, and without an exception those receiving the first official test were found to be badly infected. We are confident that tuberculosis exists to an alarming degree in the dairies supplying St. Louis with milk and butter. If the citizens of St. Louis would demand that their milk supply be produced from officially tested dairies it would only be a short time until they would enjoy clean, wholesome milk.

Kansas City has an ordinance requiring all cattle from which milk is produced to be tuberculin-tested, yet anyone calling himself a veterinarian is allowed to apply the tuberculin test and his certificate is accepted, with the result that the careful, conscientious veterinarian is very little in demand and those that never find tuberculosis are employed to do the testing. Only four reacting cows have been reported to this office in the past 20 months. The above shows the result of an unofficial test. We have tendered Kansas City our assistance provided they would furnish the necessary lay help and route the dairy herds for us. The feed inspector of Kansas City agreed to this, yet officially no action has been taken by him.

Joplin and Excelsior Springs have, or will in the near future, pass an ordinance requiring the official test of all dairy cows supplying milk and butter to each of the above cities. They should have our co-operation and support. During the past winter the Hereford breeders filed many applications for the tuberculin test. We looked after them as rapidly as possible, and it is certainly gratifying to note that out of the many herds tested no tuberculosis was found in the Hereford breeds. We believe it is only a question of time until the pure-bred breeder, who expects to sell cattle interstate, will be compelled to have his herd officially tested until they are found free from tuberculosis. Most of the different states with but two exceptions require that cattle intended for dairy or breeding purposes be officially tested before they will receive them. Many badly tubercular herds are located due to interstate shipments, therefore we recently requested an opinion from the Attorney-General's office on section 712, in which he advised us that we had absolute authority to take charge of any herd and hold it in quarantine until it was officially tested without expense to the owner. This section should be rigidly enforced, and in this way the most dangerous herds in the State will be located and the disease placed under control.

S. SHELDON, State Veterinarian.

REPORT OF D. F. LUCKEY, STATE VETERINARIAN.

Gentlemen of the Missouri State Board of Agriculture:

Dr. D. F. Luckey.

Supplementary to the report rendered by Dr. Sheldon covering the work of this office during the greater part of this year, I wish to submit herewith a few statements covering various matters since I assumed the office, September 1, 1913.

SHEEP SCAB.

From Dr. Sheldon's report I got the impression that sheep scab had become widespread in Camden, Laclede and Wright counties. I made a personal visit to each of these counties and held mass meetings with those interested in sheep industry in each county. I found that scabies was present only in limited areas in each of these counties, and I effected local organizations of the sheep men whereby I think all sheep in the infected areas will be properly dipped and cured without the necessity of a quarantine. Numerous shipments of scabby sheep have come from Morgan county during the present year, and it seems that there is probably more scabies among sheep in this county than anywhere else in the State. The sale or shipment of scabby sheep is a violation of the law of the State. Scabies in sheep is easily cured by dipping. I have notified shippers in Morgan county of this law, and have taken the matter up with the prosecuting attorney. Hereafter we will rigidly prosecute all who ship diseased sheep, and in this way I think we can thoroughly control the matter.

TUBERCULOSIS QUARANTINE REGULATIONS UPHELD.

On December 2, 1913, the temporary injunction restraining the State Veterinarian from enforcing the cattle tuberculosis quarantine regulations came up for hearing in the Circuit Court of St. Louis. The temporary injunction was dissolved, and later the quarantine regulations were declared just and valid.

During the past two years these regulations have been evaded in different ways, especially by shipments of cattle from the states of Illinois and New York. Either through fraudulent inspections by veterinarians or through the "plugging" of diseased cattle to make them pass inspection by an honest veterinarian, a large number of tuberculous cattle have been shipped from both of these states. The veterinarians of the State of Illinois are making an honest effort to purge their ranks of those who would pass tuberculous cattle for sound. So far as I know, no particular effort is being made in the State of New York along this line. Under present conditions, it seems absolutely necessary to exercise the authority given under Rule V of our quarantine regulations and hold all dairy and breeding cattle from the states of Illinois and New York for a retest ninety days after arrival in this State. Orders to this effect have been sent out to all railroad companies and deputies in this State. It has been found that some are shipping cattle into this State ostensibly for pasturing, feeding or immediate slaughter and subsequently selling them for dairy and breeding purposes. During the coming year we will attempt to keep check on cattle coming into the State without the tuberculin test, and if it is found that this liberal provision of the regulations is being abused it may be necessary to require the tuberculin test of all female cattle.

It is to be regretted that a few unprincipled dealers and veterinarians persist in a course which eventually brings more or less hardship and inconvenience upon those who are honest and efficient.

The observations of the inspection of cattle for interstate shipment, and especially of dairy cattle, show plainly that we need in all of the states a strict law regulating the practice of veterinary surgery. The time is now at hand when everyone who does any kind of veterinary work at all, especially those who have anything to do with the treatment or immunization of live stock, should be required to secure a license for that purpose. Whenever any incompetent or fraudulent work is done the license can be revoked. At present there are numerous unlicensed persons going about the State using hog cholera serum and, in many cases, causing heavy losses. There are also those who are absolutely incompetent, making fake health certificates for dairy cattle. The veterinary practice act should by all means be so amended as to fix the responsibility in such cases so that all offending parties could be brought to justice.

HOG CHOLERA.

Hog cholera is still quite widespread over the State. There is no definite plan in operation in this State for its control, and nobody in particular is charged with its control. There is no effective system for securing information as to its prevalence. It would be difficult for anybody to place the responsibility for the lack of results in hog cholera control work. It still seems to me that our system (if what we are doing may be called a system) is seriously at fault, and the whole matter needs to be gone over and some organization perfected which will be effective in controlling hog cholera. By all means some definite plan ought to be worked out and presented to the public so that hog owners might know whom to depend upon for assistance, with whom to co-operate and whom to hold responsible for lack of results.

It has become very evident that if any department is to control hog cholera without unusual and unnecessary expense it must be vested with authority to quarantine affected hogs, enforce various police measures, be supplied with potent hog cholera serum, and must be prepared to take charge of outbreaks promptly. It is to be regretted that for the lack of such an organization being perfected promptly at the time hog cholera serum was discovered the State has since unnecessarily lost millions of dollars worth of hogs.

According to recommendations to your Board from time to time, and strongly urged at the annual meeting, December 28, 1910, and through the persistent urging of my predecessor, a system has at last been inaugurated whereby stock hogs may be vaccinated and taken from the public yards for stock purposes.

This has already stopped a great waste at the yards of hogs that were entirely unfit for slaughtering purposes. As far as can be ascertained, this system is proving successful and in all probability may be extended to apply to all stockyards. The waste of hogs prevented by this system at the yards will amount to much more than the entire cost of supporting the office and force of the State Veterinarian.

An attempt following the correct theory is being made to control hog cholera in Pettis county. Yet it would appear that the most expensive instead of the most economical system was adopted in this work, and that the longest way around instead of the shortest way through has been followed. There is employed on this work duplicate, if not triplicate, forces. On analysis of the situation we find representatives of the Federal Government going about administering hog cholera serum. When they find diseased hogs that are not properly controlled, or infected premises that are not being cared for, they return to headquarters. At an additional unnecessary expense of six or seven dollars per day a Deputy State Veterinarian drives back to the same territory and issues quarantine orders. We find that right in the midst of all this hog cholera work some breeder wants his hogs injected to be exhibited at the State Fair, and a student packs his grip with some hog cholera serum from the Missouri Experiment Station and puts the State to an additional, unnecessary expense. The business arrangement of this hog cholera eradication work is so far from economical as to appear almost ludicrous. Furthermore, infected and exposed hogs of numerous owners over the county which were injected with serum in November were still found dying December 20th. This indicates that either the hog cholera in Pettis county is of an extremely chronic nature or that the serum used on these hogs was impotent.

It seems to me that if the Board of Agriculture could make some arrangements whereby a Deputy State Veterinarian could be supplied with potent hog cholera serum good results could be obtained with about one-third or one-fourth of the cost under the present system. When one veterinarian goes out twenty to twenty-five miles distant to examine a lot of hogs infected with cholera, it seems silly to return to headquarters and send another veterinarian to administer the serum, or vice versa, thereby duplicating the expense. When it comes to making an official call by this department in some extreme corner of the State and then returning to Columbia and sending a student from the Agricultural College to apply the serum, you can readily see that the expense of this control work would be entirely unreasonable. Such a procedure seems so void of good business sense that I have not undertaken hog cholera investigations at all.

TEXAS FEVER.

I am glad to report that the last area of any extent infested with Texas fever ticks has been cleaned up. On November 1st the federal quarantine on parts of Ripley county was released. There are a few limited ticky areas yet in the State, but hereafter all such infestation can be controlled by farm quarantines, and the Texas fever quarantine regulations are no longer of any use. In fact, the regulations are not only useless, but are more or less of a hindrance to the legitimate movement of cattle. I, therefore, recommend that the Texas fever quarantine regulations under date of August 19, 1912, be entirely rescinded. There is no further necessity for these regulations as pertaining to the movement of cattle within the State. The federal quarantine regulations will fully protect the State from ticky cattle from without. Our regulations are, therefore, a duplication of those of the Federal Government and are entirely unnecessary. There never has been a successful prosecution under these regulations. All prosecutions for violation of the quarantine have been brought in the federal courts, and, in most cases, have been successful. Furthermore, there is a statute which is much more binding and more easily enforced than these quarantine regulations which specifically forbid anyone to drive ticky cattle into or across this State. These regulations are, therefore, manifestly superfluous and should be recalled forthwith.

SPLENDID PROGRESS IN TUBERCULOSIS ERADICATION WORK.

During the past year Texas fever work in Southern Missouri and hog cholera eradication work in Pettis county took almost half of the time of our three regular deputies. For several months during the year our tuberculosis eradication work came to a standstill. Yet, considering everything, very satisfactory progress has been made. In looking over the results of this work for several years, they are especially gratifying. Our plans in the beginning were to take up the dairy inspection, co-operating with different cities of this State. The city passed an ordinance requiring the dairy inspection, and our force has supplied the veterinarians to inspect the cattle. We have made a general inspection of practically all of the dairy cattle, including single cows from which butter was sold, around Hannibal, Warrensburg, Independence, Columbia, St. Joseph, Springfield and Sedalia. In addition to this, we have kept up the annual retesting of the dairy herds furnishing certified milk to the cities. We have begun the tests of all Hereford herds of the State, but for the lack of funds have not been able to carry this work forward. We have begun an official test of the dairies around Joplin and almost completed the test at Excelsior Springs. We still have several hundred applications around these two places.

One of the most gratifying features of this work is that a retest of the dairy cattle around different cities has shown that our work was thorough and effective. In our retest for Sedalia we did not find a single tuberculous cow. A retest around Hannibal, after a lapse of three years, revealed the presence of one tuberculous cow. Retests around Columbia, wherever such retest appeared necessary, showed no tuberculous cattle except in one dairy, and the infection was reintroduced into this herd since our last test. Retests around St. Joseph after a lapse of two years, as far as they have gone, show practically no tuberculous cattle. These results are especially gratifying and are largely contradictory of some of the results on similar work reported in other states.

At the close of the year 1913 we find that our funds are overdrawn, and it appeared that all of this work would have to come to a standstill. We find, however, that both the dairymen and milk consumers in areas where we have worked are in favor of regular retests as far as they are necessary. The people of St. Joseph waited two years for a retest, and as it could not be supplied by this department, demanded a retest at the expense of the dairymen. The authorities of Kansas City have been working diligently for a complete and accurate test of all their dairy cattle. Finding that this work has vastly outgrown our department, we have attempted a new system which is a compromise between all of this work being done by deputies and allowing it to be done by veterinarians promiscuously, competent and incompetent, honest and dishonest. Through the co-operation of the officials of Kansas City and St. Joseph we have arranged to furnish tags, tuberculin and blanks to all veterinarians in the surrounding country who will be accurate, careful and honest in making these inspections. One of our regular deputies will be placed in this territory. It is the understanding that whenever a reacting animal is found in any herd the veterinarian making the test will report forthwith to the deputy in charge. The regular deputy will take charge of the herd, tag and quarantine all diseased animals, supervise the disinfection of the barn and dispose of the diseased animals. He will make such retests every sixty or ninety days as may be necessary without any further charges to the dairyman.

It seems with this plan that we promise fair during the coming year to clean up the tuberculosis among cattle in the western half of Missouri from which milk is being sold and many from which butter is sold. We will have a clean area then reaching across the central part of the State to the Mississippi river at Hannibal. If we were provided with funds we could practically finish the balance of the State in 1914. It is possible that we will get in touch with the breeders of pure bred herds and manage within the next year or two to have practically all of our pure bred herds on the "white list."

If this work is allowed to go forward, we may soon expect to see our dairy and breeding cattle and our dairy products at a premium on all markets.

"WHITE LIST."

There is a movement on among the official veterinarians of the different states to get registered herds on the "white list." As yet definite rules governing this matter have not been laid down, but in practice the work is about as follows:

Anyone who owns a registered herd will have that herd officially tested for tuberculosis. The names of all owners of such herds will be furnished by this department to the officials of other states. Whenever the owner of a herd on the "white list" desires to ship an animal out of the State, he can write the State Veterinarian to that effect and receive a shipment permit by return mail. In the event of an emergency shipment, this business can be transacted by telegraph. In this way tuberculosis will be controlled in all of our breeding herds without any expense to the owner, and the owner of the herd will be spared the expense and delay of securing inspection for each animal that he desires to send out of the State. The Jersey and Hereford cattle breeders are in line on this proposition at the present time, and if this department were supplied with the necessary funds there is no reason why a vast majority of the breeding herds of this State could not be placed on the approved list within the coming year.

Respectfully submitted,
D. F. LUCKEY, State Veterinarian.

REPORT OF DAIRY COMMISSIONER.

To the Honorable Board of Agriculture:

I was appointed to the office of Dairy Commissioner last August, and this report to you will cover the last five months of 1913.

It required but little effort to realize that the output of dairy products in Missouri, when compared with that of many other states, was not what it should be. Investigation showed the resources in Missouri, necessary to the welfare of the dairy industry, to be far superior to those in many sections standing high in the production of dairy products and exceeding us in output, and I do not attribute this condition to any lack of interest on the part of those having had charge of the welfare of the industry. Good results of the efforts of the Board of Agriculture, our Agricultural College and our former Food and Dairy Commissioners are much in evidence. In order to determine, if possible, why our development along dairy lines had been so backward, I made a trip to the dairy centers of Illinois, Minnesota and Wisconsin and studied their methods closely. Conclusions were quickly reached that our farmers were not sufficiently specializing in dairying.

In the dairy sections of the states visited I found a very large percentage of the farmers with a herd of dairy cattle, with creameries and cheese factories every few miles, showing conclusively that the farmers were making dairying a main issue. They were milking cows for profit and were applying business principles to their work. Local dairy associations were much in evidence, and through these organizations not only are the many problems of dairying quickly solved, but co-operative cheese factories and creameries are owned and controlled by their members and are being successfully operated, thus finding the most profitable market for their products. The details of dairying are given close attention and the importance of well-bred stock is not overlooked, and testing cows in order to positively know their worth is generally practiced. The result being obtained in Wisconsin through using the above methods is worthy of consideration.

Wisconsin has 2,000 cheese factories producing 48 per cent of all the cheese produced in the United States. She has almost 1,000 creameries and her output of dairy products for 1912 was almost $100,000,000, and Missouri, producing approximately $14,000,000 worth of dairy products, is a good reason why we should give more attention to this profitable work. The demand for good dairy products far exceeds the supply. With railroads running special milk trains into the large cities of the east, an increased demand has been made for whole milk, and the east is drawing on the middle states for much of their butter and cheese. The fear of overproduction need not be considered.

In going over the better dairy sections of Missouri, it seems that in order to increase our output of dairy products it is necessary to arouse a greater interest among those already engaged in the work, and through showing the financial benefits derived from this industry more people will take up dairying, which will bring more cows into the State by increasing the demand for them. It is also apparent that we need local organizations for the purpose of establishing cordial relations and co-operation of those interested, and through frequent meetings friendly discussions on all subjects pertaining to dairying could take place. It seems that more attention must be given to the cow as regards her care and feed and also to the breeding up of our herds. Believing that to accomplish these results would be best serving the welfare of the State, my plans were made along the line of development work.

Business men and bankers in other states are recognizing the importance of dairying in their communities and are giving substantial aid towards its development. Banks are lending money on cows for security, allowing the farmers who borrow to pay for them with a certain percentage of what the cow produces until the debt is liquidated. They are offering to loan money for a year without interest for the purpose of building silos to as many as twenty farmers, provided they are residents of the county in which the bank is located and own 80 acres of unincumbered land. Merchants are building and equipping creameries and cheese factories, turning them to the dairyman and the farmer to be operated on the co-operative plan—those supplying the raw material getting all the profits after paying a reasonable sum for interest and depreciation. Sooner or later the factories are purchased by the patrons.

Feeling that our business men and bankers would appreciate the importance of encouraging more dairying in their neighborhood, I made special effort to have them present at the meetings in which I have taken part. They were much interested, and I am glad to report that much progress was made and the outlook is indeed gratifying. One banker in Southern Missouri announced at one of our meetings that their bank was ready to lend $10,000 to farmers in their locality with which to buy cows on the terms mentioned above. Merchants promised active support through their commercial clubs. I have taken part in dairy meetings held in Clinton, Neosho, Kansas City, Fordland, Rogersville, Seymour, Mountain View, Willow Springs, Warsaw, Sarcoxie, Granby, Jasper, Carl Junction, Paris and Carthage. Another series of meetings will be held in the places already mentioned and plans are under way that will terminate in accomplishing the desired results.

It is my desire that all the breeders and fanciers of the different breeds of dairy cattle that are sufficiently represented in the State organize and be active in promoting the welfare of their favorite breeds, and this department will gladly assist in this work. About one year ago the Southwest Jersey Cattle Breeders' Association was organized in Kansas City. This association accepts members from the entire southwest, therefore it is not a state organization. However, its headquarters are in Kansas City, and the members in that locality are quite active. The dairy industry of Missouri has already derived much benefit from this association, and still greater benefits will follow. This department has had the pleasure of assisting this association in some of its work. Through the efforts of its members and the kindness of the members of the Kansas City Royal Stock Show, about 100 head of Jersey cattle were shown at the Royal show last October. In this exhibit were some of the very best specimens of Jersey cattle in the United States, and they attracted much attention. The officers of the Southwest Jersey Cattle Breeders' Association are entitled to much credit for the success of their initial show. Since the close of this show my attention has been directed to the purchase and bringing into Missouri of more than $30,000 worth of pure bred and highly pedigreed dairy cattle. More than one-half of these cattle were purchased by members of the association. Their annual meeting was held in Kansas City a few weeks ago and was well attended. It was unanimously agreed to hold a show in Kansas City some time in October, 1914. All the dairy breeds will be represented. This will be a show of dairy cattle, dairy products, dairy barn equipments, cow-testing contests, dairy cattle judging contests, and a general exposition of all the up-to-date and progressive ideas that has to do with dairying. So far as plans have progressed, it is intended to have this show the week preceding or the week following the State Fair, and it is the desire of the committee having the matter in hand to have our State Fair get all the benefits possible from the show and will co-operate to that end.

At the last meeting of the Missouri Dairy Association it was shown that this organization was making splendid progress with their work throughout the State.

Following up the plans to organize local dairy associations, I called a meeting of the dairymen in Jasper county on January 3, 1914. This meeting followed three preliminary meetings held in different parts of the county. The general meeting was well attended and the Jasper County Dairy Association was organized with 50 charter members; many of the representative farmers and dairymen of the county joined the association and the meeting was a decided success. Other counties are already becoming interested in this work, as requests have been received for information regarding organization. Anticipating this, a bulletin has just been issued from this department on "The Advantages of Community Organizations," and will be distributed over the State.

There were many silos erected throughout the state in 1913, and they had much to do with relieving the threatened feed shortage last fall. With favorable weather, good grass and wheat pasture it has not been necessary to feed a great deal of silage or reserve forage up to this time. I want especially to invite your attention to the decided interest being taken by our farmers and dairymen in the betterment of their farm equipment. Many labor-saving devices, such as litter and feed carriers, water tanks, stanchions and cement floors, are being installed, while the importance of more light and better ventilation is being realized. The growing demand for tuberculin-tested cattle is causing much thought to be centered on this subject, and no doubt it will be but a short time until all of our cattle will undergo this test. Every effort should be put forth to accomplish this as it is of vital importance to the entire cattle industry of the State.

With the increased employment of modern barn equipment better sanitation is sure to follow, and when the importance of cleanliness in the handling of dairy products is fully realized and generally practiced, the greatest obstacle in the milk problem is removed.

Respectfully submitted,
E. G. Bennett, State Dairy Commissioner.

REPORT OF APIARY INSPECTOR.

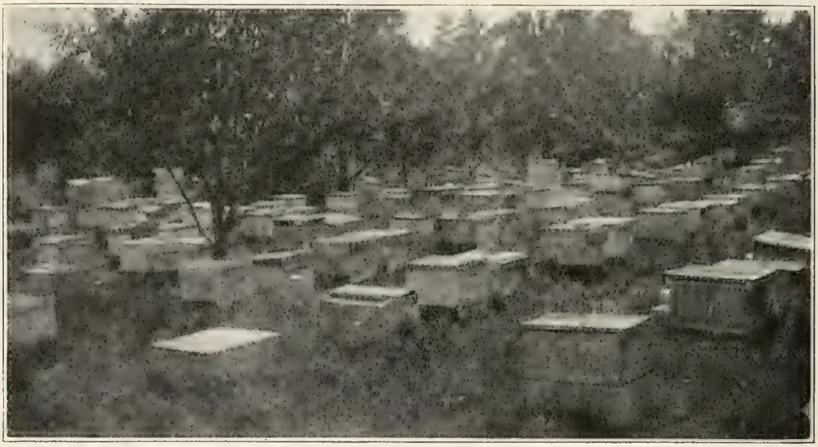
Gentlemen of the State Board of Agriculture:

M. E. Darby.

While the work of apiary inspection for 1913 was greatly hindered by the drouth, the results in most places where work has been carried on have been very good considering the disadvantages we have labored under.

During much of the time there was little or no nectar secreted by the few flowers that were not cut down by the excessive heat and drouth. For this reason bees were very much inclined to rob, so it was necessary to be very cautious about opening hives at times when robber bees were likely to dart in and steal a load of honey from a colony opened for inspection when said colony might contain foul brood and in this manner scatter it to other colonies. Under these conditions much extra work had to be done, for very seldom could an apiary of any size be inspected without having to suspend operations one or more times before completing the work unless a tent could be used, and most of the time the tent proposition was an impracticable one.

The work done before the dry weather was very satisfactory and makes the season's results up to the average in number of colonies inspected. But in many cases the work could not be as thorough as it should have been. Of the 4,000 colonies thus inspected five and one-half per cent were found to be diseased. Of this number 75 per cent were affected with the European type of foul brood and 25 per cent with the American type.



Bees and fruit go well together.

The past season has demonstrated the need of additional help in this work of fighting bee disease more than any preceding one since this work was started. With the help of a few good deputies during the early part of the season foul brood could have been well under control by the time the work was checked by the drouth, and thus have been prevented the spread of disease and much loss to the beekeeper. The inspection work early in the spring and summer means much in this foul brood work during any season, but it means much more during a season like the past, when a nectar famine extended over the greater part of the summer season. During such times the robbing inclination is greatly increased and colonies weakened from disease are almost sure to be found and robbed. With a good force of deputy help during the early part of the season a great amount of work in the later part of the season would be saved, more territory would be covered and more good accomplished.

It is impossible for one man to cover the whole State and deal with the conditions in each diseased district as they should be dealt with. For example, results have not been satisfactory at Mexico, Benton City and Wellsville. The beekeepers there have not taken hold of the work as they should. Very few have offered to do any real work. Some would like to see the law enforced if the inspector would do the work and relieve them of work and responsibility. They consider it a great sacrifice on their part to give two or three days of their time for the general welfare of their community. While conditions in these places remain as they are at the present time, satisfactory results can-

Apiaries of H. C. Gadberry, Miami, Mo.

not be obtained under the present system of inspection, in which one man is expected to deal with every diseased colony of bees in the entire State. One inspector cannot give the time needed, for there are other localities needing work just as much as these and where the people are anxious about the work and willingly take hold and help. Some provision for extra inspection work seems to be the only way to meet the conditions we have before us, and we earnestly hope that the importance of the bee industry with its possibilities and its close relationship to the great horticultural interests, will bring the help and recognition deserved.

Respectfully submitted,
M. E. Darby, Apiary Inspector.

Report of Missouri Farmers' Week.

January 12, 13, 14, 15 and 16, 1914.

Fourth Annual Meeting Missouri Saddle Horse Breeders' Association, Fourth Annual Meeting Missouri Cattle, Swine and Sheep Feeders' Association, Seventh Annual Meeting Missouri Sheep Breeders' and Feeders' Association, Fourth Annual Meeting Missouri Association of County and District Fairs, Fifth Annual Meeting Missouri Farm Management Association, Fifth Annual Meeting Missouri Draft Horse Breeders' Association, Fourth Annual Meeting Missouri Women Farmers' Club, Seventh Annual Meeting Missouri Home Makers' Conference Association, Twenty-Fourth Annual Meeting State Dairy Association, Eleventh Annual Meeting Missouri Corn Growers' Association, Second Annual Meeting Missouri Country Life Conference, Second Annual Ham and Bacon Show.

(Conducted under the auspices of the State Board of Agriculture.)

MISSOURI
STATE BOARD
OF
AGRICULTURE
FARMERS WEEK
COLUMBIA

The attendance at Missouri Farmers' Week in Columbia, January 12 to 16, 1914, was 2,240. In 1913, the best year up to that time, the enrollment reached 1,587.

Since the establishment of Farmers' Week by the State Board of Agriculture, a number of years ago, each year has witnessed an increased attendance. A few years ago the College of Agriculture also inaugurated a special four-day short course in agriculture, which has become one of the valuable features of Farmers' Week. From 3 to 5 o'clock each afternoon association meetings are held. The associations represented were: The Missouri Saddle Horse Breeders' Association, Missouri Cattle, Swine and Sheep Feeders' Association, Missouri Association of County and District Fairs, Missouri Farm Management Association, Missouri Draft Horse Breeders, Association, Missouri Women Farmers' Club, Missouri Home Makers' Conference, State Dairy Association, Missouri Corn Growers' Association, Missouri Country Life Conference, Missouri Sheep Breeders' and Feeders' Association, Missouri Ham and Bacon Show. In addition to these, there was held the organization meeting of the Missouri Duroc-Jersey Swine Breeders' Association. The evening program included music and popular addresses. In the attendance for the week Cooper county, with 95 representatives, was first; Johnson county, with 75, second. Of the 114 counties in the State 92 were represented. Visitors were also present from 19 states. The Missouri attendance by counties was: Adair, 20; Andrew, 5; Atchison, 13; Audrain, 38; Bates, 4; Barton, 1; Benton, 1; Boone, 718; Buchanan, 22; Butler, 2; Caldwell, 10; Callaway, 43; Cape Girardeau, 3; Carroll, 30; Cass, 8; Chariton, 21; Christian, 1; Clark, 2; Clay, 8; Clinton, 6; Cole, 7; Cooper, 95; Dade, 3; Daviess, 10; DeKalb, 9; Dent, 1; Franklin, 9; Gasconade, 1; Gentry, 12; Greene, 4; Grundy, 12; Harrison, 11; Henry, 18; Hickory, 1; Holt, 6; Howard, 51; Howell, 1; Jackson, 37; Jasper, 21; Jefferson, 2; Johnson, 72; Knox, 8; Laclede, 4; Lafayette, 13; Lawrence, 15; Lewis, 10; Lincoln, 12; Linn, 19; Livingston, 13; Macon, 16; Madison, 3; Maries, 3; Marion, 25; Mercer, 1; Miller, 1; Mississippi, 4; Moniteau, 12; Monroe, 32; Montgomery, 36; Morgan, 5; New Madrid, 1; Newton, 4; Nodaway, 12; Oregon, 1; Osage, 1; Perry, 1; Pettis, 67; Pike, 23; Platte, 6; Pulaski, 1; Putnam, 1; Ralls, 5; Randolph, 26; Ray, 5; Ripley, 2; St. Charles, 14; St. Clair, 6; St. Francois, 6; Ste. Genevieve, 1; St. Louis, 26; city of St. Louis, 20; Saline, 36; Scotland, 1; Scott, 1; Shelby, 7; Stoddard, 3; Sullivan, 6; Taney, 1; Vernon, 2; Warren, 10; Washington, 5; Worth, 2; Wright, 4.

Following the custom inaugurated five years ago, the Board of Agriculture provided a registry for all visitors at Farmers' Week, and presented each one who registered with an official badge. This badge is illustrated in connection with this article. It is through the liberality of the Columbia Commercial Club that this feature was made possible.

The Farmers' Ham and Bacon Show, organized in 1913 by the State Board of Agriculture, was again an interesting feature of the week. An account of this show is made a part of this report. The State Corn Show, covered in another part of this report, was an exceptionally strong one, considering the season of 1913. The entries of small grain were numerous and of excellent quality.

One of the fine features of the week was the annual banquet provided by the Agricultural College and attended by some 500 farmers. The large dining hall was completely filled. Among the speakers were Governor Elliott W. Major and others prominent in public life or in agricultural work.

In the following pages will be found a report of the proceedings of the week. We regret that all of these reports are not complete, but it was impossible to secure copies of all addresses and papers. For this report, as published, the Board of Agriculture is greatly indebted to the secretaries of the various associations and to members of the Agricultural College faculty.

MISSOURI FARMERS' WEEK.

(Hon. George B. Ellis, editor The Missouri Farmer, Columbia, Mo., and former Secretary of the Missouri State Board of Agriculture.)

Hon. George B. Ellis.

Have you ever attended Farmers' Week, held under the auspices of the State Board of Agriculture? If you have you know something about the enthusiasm this great annual event begets in the minds of those who gather in the Agricultural College each January. The inspiration and information farmers have received from the exhibitions, demonstrations and lectures during Farmers' Week has been a very great factor in the wonderful awakening we have seen in the last few years in the betterment of farm practices and in rural life conditions. The good influence of these meetings does not stop with the few thousands who have been fortunate enough to attend, but through the publications of the Board, the publicity of the press and the missionary work of those who have attended this influence has reached the remotest corners of the State.

I have been asked to give a brief reminiscence of the organization and development of the annual meeting known as "Farmers' Week." Looking back for a great many years we find that different classes of farmers have been organized in State associations for mutual benefit, but until the organization of Farmers' Week no successful effort had ever been made to bring all classes of farmers together for conference and for instruction. Some of the older associations were the State Horticultural Society, the State Dairymen's Association, the Swine Breeders' Association, the Road Improvement Association and others, but each of these had its own meeting place, and there seemed to be no successful effort to unite all these various societies in one powerful organization. It is true that as far back as 1898 a number of these associations met in the same place at the same time. Included with those already mentioned were the Improved Live Stock Breeders, the Missouri Grange, and the State Poultry Association. These meetings were held in various towns, Mexico, Chillicothe, Fayette, Columbia, Sedalia and Springfield being among the places where the meetings were held. There was more or less local interest in each town where the meeting assembled, but the publicity, except what the State Board gave through its publications, was limited to the locality where the meeting was held, and even that, in some instances, was very poor.

The writer attended several of these meetings, and the last two—those held at Chillicothe in December, 1901, and at Springfield in December, 1902—were under his supervision. He saw the loss of any cumulative influence growing out of these meetings, as the enthusiasm for each meeting had to be worked up as if it were the first meeting of the kind ever held. The associations of the different interests would do very good work for a year or two; then some of them would die and others would be organized. There seemed to be no permanency in the plan. While these meetings had all been fostered by the Board of Agriculture they were not under the control of the Board, but each organization controlled its own affairs. The meeting place and general arrangements were made by the Board, acting with a committee of one delegate from each association. This committee had been in the habit of voting the meeting to the town offering the best bid for it. It cost considerable money to pay the necessary expenses of these meetings in the matter of printing programs, paying for prominent speakers and for premiums for the State Poultry Show, which at that time received no State support. When the time came for selecting the next meeting a delegation from Sedalia submitted a proposition asking for the meeting, and also a delegation representing the Commercial Club of Joplin offered a purse of $400 to pay poultry premiums and free entertainment for the officers and members of the Board and speakers on the program. This was a handsome proposition on the part of Joplin, and seemed certain of acceptance.

Having the responsibility of the permanent success of the work of the Board by reason of my position as Secretary, I had for some time been thinking of a plan that would arouse the whole State as to the importance of the work of both the Board of Agriculture and the College of Agriculture. (In writing this statement I hope I may not appear egotistic, for in anything I may have done my only aim was the betterment of the farmers of Missouri.) Both the Board and the college had been doing splendid work for many years, but for some years their efforts were not appreciated—even among farmers at that time there was widespread prejudice against both institutions. I had observed that the reason for this prejudice was largely a lack of understanding or familiarity with what the college and Board were doing, or, at least, what they were trying to do. It seemed to me that if the meetings were held in the college and the home of the Board of Agriculture that gradually the farmers who attended would become extension representatives for their respective communities and in that way would soon have the support of at least a large majority of the farmers throughout the State. I made this plea before the committee and begged them to hold the next meeting in the Agricultural College, Columbia, in January, 1904. I was asked what money consideration Columbia had to offer and I was compelled to say, "Not one cent—we can only give you a place of meeting and an opportunity of visiting the College of Agriculture, which should be the pride of every intelligent farmer of the State."

To my great surprise the plea won the committee and an unanimous vote was given for a trial meeting in the State University. The next meeting was therefore held in January, 1904, and all organizations in the State representing any line of agriculture or live stock were invited to join us. Early in 1903 a Corn Growers' Association was organized among the students of the Agricultural College and their first annual meeting was held under the auspices of the Board of Agriculture in January, 1904, and a corn show was held, but it was a very poor show, and would not be classed as a corn show today in the most remote district of the State. The few farmers who attended this first meeting were enthusiastic about the work of the Board and the College, and unanimously voted to continue the meetings here, and since that each succeeding year has seen an increased interest and attendance. Up to this time the meetings had been held for two or three days, but it was seen that a big program such as we wanted to give could not be rendered in so short a time, and this led to the arrangement for a week's program and the adoption of the name "Farmers' Week," and the first meeting under the new name was held January, 1906, under the auspices of the State Board of Agriculture. If there is a farmer in the State who has not heard something of the Board of Agriculture and College of Agriculture through Farmers' Week, it is because he does not read the papers, for it would be hard to find a paper that has not given wide publicity to this annual farmers' round-up.

Those familiar with the growth of the Agricultural College know that one of the great factors influencing such growth has been the direct results of Farmers' Week. It was largely through the influence of the men who had attended these meetings that the Legislature made the appropriation for the $100,000 new agricultural building which now adorns the campus of the State University, as well as for the large appropriations for betterments of the college and Experiment Station. The Board of Agriculture first suggested these appropriations and, with only passive support from the University authorities, fought them through the Legislature, and we are proud of the fact that the agricultural department has become, in many respects, the greatest of all the departments of our great State University.

One of the great features of Farmers' Week is the State Corn Show, which has grown in ten years from a small show of very common corn to a magnificent show of almost perfect exhibits, and it is recognized as one of the leading shows of the United States. A more recent feature is the ham and bacon show, which is destined to restore to the farms the good old practice of making nice, sweet hams and bacon, and while it may rob millionaire packers of a little of their profit, it will keep more money in the pockets of the farmers to be used in building better homes, better schools and better roads. Another feature of Farmers' Week which has a great future is the Rural Life Conference, which was organized by W. L. Nelson, Assistant Secretary of the Board, as was also the ham and bacon show. This Rural Life Conference, if supplemented with community clubs all over the State, will prove a great influence for better schools and roads and for all those better things of life for which we are all seeking.

The great success of Farmers' Week has been due, first, to the cause, and second, to the hearty co-operation of the officers and members of the Board of Agriculture, together with the president of the State University and the faculty of the College of Agriculture. This co-operation, backed up by the enthusiastic support of the farmers, has given our great State a prominent place among all the states of the Union in the work for agricultural betterment, and it is only by a continued and united effort that we can maintain our position. Let the Board and the college continue to lead, and may we, as loyal farmers, support them, to the end that Missouri may become the home of the greatest body of successful farmers in all this great country of ours.

THINGS THAT MAKE LIFE IN THE COUNTRY WORTH WHILE.

(S. M. Jordan, Sedalia, Mo.)

Did it ever occur to you that a college professor knows only a little? A lawyer knows just a little; a doctor knows a little bit; a farmer knows something; a merchant has a few "notions:" an institute lecturer may have an idea or two. In other words, no one man knows any great amount, and the world does not care whether you know any great amount about many things or not. But if the college professor and the lawyer and the doctor and the merchant and the institute lecturer and the farmer combine their information it makes a lot of it, doesn't it? That is why we are here—to combine our information.

We are going to play a joke on you tonight. You are tricked, and it may be you will conclude you are tricked a good deal worse before the day is entirely over. Some of the speakers cannot be here tonight, so I have been asked to make this lecture a continued story, and I am going to make you the promise of doing like the little boy did—he saved the best apple until the last.

For a little while this afternoon I am going to tell you just a few things that we are doing to make country life worth while, and I believe that country life is the most worth while for the simple reason that those events in your lifetime that have made the most lasting impressions upon your memory were events that took place in the country. You may have lived in town, but one of the happiest days you ever spent was when you made that excursion to the countryside. Why, we all remember the "old swimming hole," don't we? How when we started to Sunday school some of us forgot sometimes, and when we went home and had been asked whether we had been to Sunday school or not and we said, "yes, ma'am," but after awhile, when mother looked a little bit closer and found sand in our hair, there was trouble brewing.

Soon after entering upon our duties in Pettis county we began working in co-operation with the county superintendent of schools. About the first thing that we did was to give notice last fall, after school opened, that we would group the districts and make trips explaining the how and why and the method of gathering and storing seed corn. We made the visits to the schools as we had agreed, and many of the boys and girls went into the fields following that and secured seed corn for their farms. The county superintendent said:

"Now every teacher who will take the pupils to the cornfield and put in the day gathering seed corn will be given credit for a day's work in school, and the teacher will be given full credit for attendance in school."

The matter is not that a lesson be given within a little dusty schoolhouse to be a lesson in their school life. The greatest lessons that have ever been are in the open field from God's great Book.

We took the little folks a little farther in their seed work and asked them to test clover seed and alfalfa seed for purity. One fellow said that he made fun of a girl teaching agriculture over at their country school. "Why," he says, "that girl has lived in town nearly all her life and she is teaching farming to the children." One day one of his little chaps asked him for some clover seed. He did not know what she wanted with it, but he gave her the seed and she carried it over to school. In a few days she came back and said, "Papa, that clover seed of yours has sour dock and buckhorn in it." He said, "She was only twelve years of age, but she knew more about the impurities of seed than I did, and I had farmed for over thirty years. She picked out sour dock and buckhorn and showed it to me."

We took up that line of work with the children for the reason that such work is easy for them. It was attractive, they enjoyed it. Carrying the work through the schools, in a very short time we found that they were able to identify or recognize the noxious weed seeds that usually grow in our clover field. As a result, the farmers began bringing their samples of seed to the office to have them looked over. I can take a twelve-year-old boy or girl into the office and in about thirty minutes have that youngster able to recognize the seed of the sour dock, the buckhorn, plantain and some others. When the farmer comes in and exhibits his sample of seed I pick out those impurities and show him, and tell him what they are. He recognizes them; we look at them through the glass, and the next time when he wants to consider the question of clover seed he doesn't need to bring a sample at all; he can look over it for himself or have his little folks do it for him.

With reference to the seed work, in helping the farmers, I told the seedsmen over there that I would be of assistance to them as long as they handled the best seeds that money would buy. If they did other than that I would fight them to a finish. I told them that I was telling them that for the reason I wanted no misunderstanding. There has been no misunderstanding. And if there has been any unkind thought toward me in my work by any of the seedsmen I am not aware of it.

A man would bring a sample of seed to the office; I would look it over, and if there were impurities in it I would pick them out; sometimes if he was not satisfied that he was doing work that was good enough, or if there were seeds that I was not able to recognize, I would send them over here to the University. In a few days they would come back. We took that sample of seed, together with the government analysis, and put it right on our table with the man's name on it and where the seed came from. If it happened to be good seed it was a mighty good advertisement, was it not? But there were no secrets in the process. As a result, this past season the seed dealers have been submitting their samples of seed to the office and having them looked over before they bought their stock. Last Legislature we got pretty badly put out with some of those fellows down there at Jefferson City. I don't know whether we actually called them ugly names or not, but we thought them, because they did not see the thing as we did and they did not pass what we called "the pure seed law." Missouri has no pure seed law, but in Pettis county we have an arrangement that is a better thing than any law that can be put on any statute book.

The children in the schools have assisted greatly in working out this one problem in Pettis county. Some one said that man is the greatest institution in the world, and I believe that—unless perhaps—I think, however, that if there is any difference, woman is a little bit better. In our work to try to make country life worth while over in Pettis county I am giving credit to a very great degree to the men of Pettis county. We have a splendid bunch over there; they are men as progressive as men are anywhere and are doing an excellent work; but for the great work in helping out in the schools and in the homes of Pettis county we will have to give the credit to the good women of that county. Do you endorse that?

In addition to our organization of men, consisting of about 660 members, the Home Makers' Club has something like 280 members, and I believe that the 280 women got more actual work done in the way of bettering Pettis county than have the 660 men.

In the piece of work that we have taken up for further organization we have only started it in Pettis county. We found our organization as it was inadequate. We have one or two organizations now already formed in the county, and I go next Monday to assist in another one. Invariably these organizations have started where there were some one or two or three persons that could and would lead. There are a great many that would like to lead out in the work, but are not capable of doing it, incapacitated for some reason or other. Others attempt to lead and make failures, so that without a leader in a community it is a very difficult matter to get the work done that we would like to have.

A short time ago we began work to find out how many silos are in Pettis county and how many acres of alfalfa are growing in Pettis county. Together with the county superintendent I wrote a letter to each teacher in the 102 rural schools. From the 102 rural schools I received 71 replies. If we cannot get a teacher to help in a community, what is the hope for that community? Seventy-one out of 102 made reply. I think one of the reasons, however, that there were several that did not reply is that we have some districts in the county in which there are no silos, I am sorry to say, and some in which there is no alfalfa growing, and I am just as sorry to say that. My objective point will be to have at least a small field of alfalfa growing in every school district of Pettis county in one year from now. The facts are that alfalfa is easier to grow in Pettis county than red clover. You believe that? Just a little bit of record of it.

It is a good notion not to believe much. A neighbor of mine used to say, "Don't believe anything you hear nor half you say yourself," and that has been the plan I have been working on here, especially when a fellow tells me something cannot be done, and they assured me in Pettis county that we could not grow alfalfa. A teacher's report from one district said, "There is no alfalfa growing in this district; the soil is not adapted for it, and men tried it a few years ago and failed."

I have been running down the men who did try alfalfa prior to 1912. I have discovered sixteen men who put out a field of alfalfa and ten of them made good. Six failed. Sixty-two and one-half per cent were successful. I found men in Pettis county growing as good alfalfa as a man need desire to raise, and every one of them was doing exactly what my good friend Miller and some more folks over here told him he had to do, yet people within one mile of this man did not know how they were doing it. I am telling it on them. That is part of my business. A man within a mile of "Uncle Nick" Gentry did not know how he was getting such a splendid crop of alfalfa every year off the ground, and how Judge Sneed was getting such a splendid crop of alfalfa, and how Mr. Brandt, south of town, was doing the same thing. A man a mile away did not know how they were doing the work; some of them do not yet.

Since 1912 and 1913 the number of fields put out according to the census that we have was forty. Forty fields put out in 1912 and 1913 and four of them failed. Thirty-six were successful, or ninety per cent were successful. Some fields may die during the winter. I don't know; I cannot prevent the weather from heaving the plants out of the ground, but if they will let me help them next summer, if there is any trouble brewing, I can cure it. I can avoid their alfalfa trouble if they will tell me about it.

I want beginners to let me select their ground for them, unless they think they know. One man said, "I don't know anything about alfalfa, but I would like to grow it. I know it is a profitable crop. I wish you would come up and tell me how to do it." I went to him, picked out his ground and told him what to do. I think I wrote the directions on a piece of paper. He followed them to the letter, just as closely as it is possible for a man to do. When he cut his crop last spring the first time, when it was ready to put into the barn—that was off of two acres—he called some neighbors in to estimate the weight as he did not have scales. The estimated weight by himself and his neighbors was four tons of alfalfa hay—the first time it was ever cut.

Another man who had followed the same directions said to me, "I did not weigh it, but on three acres I got seven 'whaling' big loads." The second cuttings for each of those men was perhaps less than half a ton per acre, because there was no rain between the first and the second cuttings; the next cutting ran about three-quarters of a ton; the fourth crop I do not have a record of.

One of these men was in a neighborhood where there are a number of people that do not believe in Sam Jordan, but they came over there to see how he grew alfalfa, and some of them actually asked him to go and pick out their land and tell them what to do so they can grow alfalfa. And he can do it. It matters not whether they believe in me or disbelieve; that does not make any difference, but they are getting information just the same. So we are trying to make every one in our county a teacher of the good things we find out.

Of the forty fields ninety per cent were successful. I do not know the per cent of successful clover fields last year, but in the entire county we got one—now mind, I am not saying anything ugly or mean about red clover—one of the best plants the Lord ever made. We don't treat it right. We abuse red clover more than any other crop we put out. Had we had as bad luck with alfalfa I no doubt would have lost my job.

If you are going to put out corn you want a good seed bed; if you are going to put out wheat you will get the bed ready for it. If you are going to put out oats you sometimes fix a tolerably good seed bed, but when you sow clover you don't make any seed bed at all, just scatter it out on top of the ground and trust to the Lord for the balance. Well, the latter part of that is all right, but the Lord helps them that help themselves, and He does not expect you to treat clover seed in that way. If you do He is going to go back on you about three times out of five.

Another feature of the work of improvement in the county to make country life worth while, I want to mention tonight, is that while the man and woman and boy and girl are the greatest "institutions" possible, what makes those people the greatest "institutions" hinges on the fertility of the soil and the home. Do you know that a good man and worn-out soil can not live together? The man will either make that soil better or the soil will make him poorer. Good citizenship lies close to fertile soil, and we are using every effort that we can, putting in every day that we are able, and sometimes Sunday, too, in traveling over the country telling the story of how to make farm life better. Every influence in this country is asserting itself on that one proposition, because the country life is the very lifeblood of this nation. Without it all business must, more or less, go down.

In my travels over the country I have taken some very long trips, and the people are all wanting to know what we are doing over in Pettis county and how we are doing it, so that if we are accomplishing anything worth while somebody else can help do the same thing.

I, maybe, might refer just a moment to the county farm adviser, he is sometimes called, and I wish they had another name for him. That doesn't tell any story about him. He is scarcely in any sense at all an adviser, and "expert" is worse than that. Sometimes call me "Professor," and I wish they would not do it. They call everybody "Professor," from a college president down to a street fakir, and, according to Webster's Dictionary, it is about right. "Farm Helper" will not quite do, because we do so much that is not farm work at all. A vast number of questions come up about their troubles in town, their lawns, their gardens, and other things. Sometimes it is a case of arbitration and the county man has to be an arbitration bureau; these things have to be considered. Some farmers have raised the objection and say: "Why not merchants have advisers, why not bankers have advisers?" Why, they do, and the best advisers that money will buy. The Wabash Railroad and the Burlington Railroad and the Santa Fe Railroad have the very best advisers that money will buy. The President of the United States surrounds himself with the brightest intellects in the nation to advise him. The Governor of the State surrounds himself with men of the best capacity to advise him in his work.

Why only a little while ago I was invited to attend a bankers' convention over in Boston and talk to them for thirty minutes—give them a little advice, if you please. In other words, they wanted to know what they could do to make farm life worth while. They took me over by a special train, as good as the Wabash builds, stopped off with me at Niagara Falls for six hours that I might see the Falls, and kept me in Boston from Sunday morning until the Saturday morning following. And then took me over to Albany, and on Sunday sent me down the Hudson to New York City, and while I was in New York City—by the way, did you ever feel the lonesomeness of the crowd and of the great city? If you ever felt that lonesomeness it was cured by a trip where you could see nature in its operation. So we went out to the Zoological Park, and just a little story that happened as we were going out: There were four men together; we all posed as bankers; I was among them, and I acted like a banker, too, and on going out to the park we did not know how to get there, so we asked the policeman. He told us to take the subway car and go to the end of the line, and then we were at the Zoological Park. As we went down the stairway there was a man there with a carriage, a two-seated rig, and he spoke to us very gently, and we asked him where the entrance was to the Zoological Park. He said, "It is down there about three-quarters of a mile," and "I take people down there; I would like to haul you down there." We asked, "What will you charge?" "Well," said he, "I will take you down for a quarter apiece." We thought that a pretty good bargain and traded. He loaded us into the wagon and on the way took us down a road and in a back way, and finally unloaded us at the administration building, but on the way my friend up here from Salisbury—he is a pretty good joker, too—reached over and tapped the fellow on the shoulder and asked, "Mister, got any Illinois hill-billies in this park?" He thought he was jollying the driver a little bit, but that fellow had us worked all right, and when we got out of the carriage and looked around we saw the main entrance to the park within fifty steps of where we got off the car. I said to the boys, "Maybe no hill-billies in this park but there are four suckers."

I went over there, traveling 3,100 miles to talk to those people, advise them as it were for thirty minutes, and they paid the freight. That speech cost them $4 a minute, and I have thought ever since that it was not worth it. But anyway, I was on the route from there with some mighty big guns. I was trying to get away with it. I made the first speech in the afternoon and James J. Hill made the next one and Dr. George Vincent of the University of Minnesota made the next one, and with the three of us together we got the American Bankers' Association to appoint a committee on agricultural development. One of the greatest organizations in all of this country recognized the movement that you and I are trying to promulgate. So that, when we all pull together—the college professor, the merchant and the lawyer, the doctor, the farmer, the banker and the institute lecturer, and every man and every woman who can lend a ray of sunshine for today and a gleam of hope for tomorrow, adding to the sum total of human happiness—life in the country and in the town will be worth while, and such will not have lived in vain and such will make the good State of Missouri a better Missouri.

THE ESSENTIALS OF FARM CREDIT.

(Hon. B. F. Harris, Champaign, Ill.)

When the automobile was first introduced it was said it would find its greatest employment and be most used in France, because it required the good, hard roads which they had par excellence. By the same logic it was prophesied that the United States having bad roads most of the time and poor roads all the time could not use the automobile to any extent. This prophet, however, did not know us, nor our habit of building from the top down—getting the cart before the horse. Contrary to prophecy, we excel in the use of the automobile as we do in bad roads—we got the automobile before we got dependable roads—but, working in our illogical way, the automobile is going to bring good roads a generation earlier than otherwise.

The same trait is now finding another illustration in our cry for better farm financing methods before we begin to correct our ruinously bad and wasteful farming methods, which are such as to forbid or call for anything but longer term loans at lower rates. At our present pace of soil exhaustion there would be no farm or fertility left, and the mortgagor would find an abandoned farm at the end of the long term mortgage. Yet after all, this cry for better farm loan rates is going to have its effect in bringing modern and permanent farm methods years sooner than otherwise.

The first point I want to bring home, speaking as a farmer and as a friend of agriculture—of 20th century agriculture as a business proposition, and opposed to and condemning the average, present-day haphazard farming—is the necessity of modern and systematic farming, not alone for the increased returns it will bring, but as absolutely demanded for soil preservation as well as for self-preservation. As agriculture, or the soil, is the basis of all our social and material superstructure, we know, but need to be reminded, that the character and permanency of the latter depend entirely upon the constructive, permanent and conserving methods we employ on the farms.

And so, since all the world is dependent upon a successful and self-sustaining agriculture—which it does not often stop to appreciate any more than does the average farmer feel the necessity for saving and feeding his soil—yet the business men, and the many more we wish to loan us money on farm mortgages, can't and won't do it until we farmers get down to business methods.

Farming has been said to be one-eighth science, three-eighths art and one-half business. The business man in financial circles is anxious to do business, to loan money, but he wants to know exactly what he is doing and what his security is. When the farmer becomes a business man, as he must, he will manage his farm on business lines with plan and precision. He will know what he is doing and why he is doing it; he will be able to show that his farm is making a clear, clean, net profit each year and that his sole asset, his soil, is being protected, and that its fertility is being built up. Then the farmer, as a business man, can go to the financial business man and get any financial accommodations that he could ask. Not alone that, but the financial man would be delighted to loan on such farm security, for it is absolutely the best and safest of all.

We must have business methods—permanent and purposeful methods—on the farm, not alone to hold our own, but to get financial help. This being understood, and being a condition precedent, how is farm financing of the future to be conducted for the farmer's best interest when his methods and soil fertility are assured? We may learn much from Europe in farm methods and farm finance, for dire necessity has compelled them to have better methods, as it will compel us if we are not smart and sane enough to anticipate the results of present methods. They have better farm financing methods, not because they have better soil or brains, for they haven't, but they have better methods, and for that reason, and that alone, their soil, farmed for hundreds of years, gives twice the yield ours does.

They, however, make prompt and continuous returns to the soil, for fertility, or soil reserve, must be built up while the farm income will carry it, otherwise it becomes a dead load for a few years.

We know enough of good farming now to double our yields and treble our income if we would but put it in practice.

One of Europe's oldest and earliest methods of farm financing was on the co-operative basis, an organization of the farmers in each community—a combination exclusively of farmers for farmers, where, with unlimited liability, they join together, borrowing money on their joint liability, as they could not borrow so favorably as individuals. This is known over Europe as the Raiffeisen system, and some believe that such a system would grow and flourish here. It would be interesting to see it tried out, and the result might be beneficial in developing the business ability and vision of our farmers as well as in bringing more favorable financial aid.

However, with the independent and individualistic tendencies of our people, and the thousands of country banks we already have, I cannot believe this system would appeal broadly to our farmers. In any event, it could not produce, promptly, the tremendous volume of money needed to carry on the improved, up-to-date farming we must adopt, and that requires heavy investments in fertilizer, live stock, more and better machinery, buildings and other farm improvements.

The better method, it would seem, could come from land mortgage banks to be provided by state or federal law, or both, whereby they could be organized and properly regulated and supervised just as is now done with our state and national banks.

This is the system followed by the Credit Froncier of France. In the same line the German law of 1899 provided for the chartering of private joint stock mortgage banks that now carry $2,618,000,000 in mortgages, being five times the amount carried by the Landschaften banks organized more than a hundred years before.

The method under which these loans are made is certain to appeal to our farmers. It is on the basis of long terms with annual payments which, while a little more than a fair interest rate, at the end of a thirty or fifty-year term will pay out both interest and principal.

For example, a thousand dollars is borrowed for thirty years at 5 per cent interest. Then by paying, say 2 per cent additional, or 7 per cent, or a total of $70.00 annually, the entire interest and debt would be met in the 30 years. For convenience it would be provided, say for sixty semi-annual payments of $35.00 each. Of the first payment of $35.00, $25.00 goes to pay interest, $7.35 to reduce the principal and $2.65 to pay expense and profit. On the sixtieth and final payment eighty-seven cents pays the interest, $31.48 pays the last of the debt and $2.65 the last of the expense, etc. This plan, now so generally in use in European farm and other mortgages, is known as amortizement.

Such loans, given for a long period, make the payments so small that any industrious farmer can meet them and, if through any adverse circumstances he should fail in any payment, the local banker could easily help him out. This spreads the payments well into the future, allows more income to be invested on the farm and practically removes all chance of foreclosure.

As our farm mortgages go now, they are for short three or five-year periods, which make the payments unnecessarily heavy and concentrated, and as these mortgages are frequently renewed or re-negotiated, it results in frequent brokerage fees, expenses, etc., to the farmer and annoyance to the mortgagee, all of which tends to increase the rate and expense.

Long term mortgages on the amortizement plan, or debentures issued against them, by banks chartered and regulated by law would find a ready market on favorable terms, especially as our farm methods improve and investors are assured of the farm's fertility being properly conserved.

As we see it, few of our farmers borrow to improve their farms, as they should if they borrow at all, but they borrow to pay for the farm or buy more land. We must learn to treat well and properly develop that which we already have, and not starve our farms to buy more. Then, too, the landlord and tenant cannot get results or maintain soil fertility with one to three-year leases, which result in robbing the soil. Money borrowed should be more largely for creative or constructive purposes.

Our earnings, or rather our farm income, have been greatly increased—in fact, in the last ten years values of farm products have advanced two to fourfold with scarcely any increase in the quantity, the increase in price being forty-seven times the increase in quantity. Few of the farmers are putting much or any of this increase back into the soil and at the same time they are borrowing more money, which goes to show that they are speculating in land instead of feeding the goose that lays the golden egg.

Most of the apparent profit in farming has been in the advance in the value of farm land, and some of this advance comes on the basis of the selling price per bushel instead of on the basis of the bushel yield per acre, which is not being maintained. These are the things that the money lender very properly considers and that we farmers must consider, for they are fundamental.

Building up fertility builds up the yield. For instance, the profit in a corn crop is in the excess yield above 35 or 40 bushels, for the cost and expense eat up the latter.

Worn-out soil and increasing population are the serious questions from a food supply standpoint, but the more serious feature is that our shiftless and heedless methods of farming are responsible for declining fertility and yields. The Illinois Experiment Station shows on its thirty-year plots in corn every year a present yield of 8 bushels per acre, with oats and corn alternating 27 bushels of corn; with a three-year rotation of oats, clover and then corn, 80 bushels per acre.

The soil and the man on the soil are the essential and final assets of the nation, and when the man has starved the soil until its declining returns have forced an unnatural and abnormal advance in prices, and no part of this advance has been returned to and used to build up the soil, then, indeed, is it time to call a halt. In certain sections of New York State one farm in three has been abandoned on account of worn-out soil, while in Ohio farmers themselves have returned figures to the state showing 141,000 abandoned acres.

As showing what a difference in yield may come from seed alone, sixteen Ohio farmers, each on the terms of a contest, selected his best seed corn and one of their number planted each farmer's seed in a separate acre in one sixteen-acre tract. The soil, cultivation, rain, sunshine, all conditions were precisely the same, yet the yields varied from 53 to 80 bushels per acre.

Farm demonstration—the carrying of the new farm methods right to the farmer on the farm—is the most important single feature of all the work to be done, and the adoption of these permanent methods is a condition precedent to all the better conditions and uplift that are to follow—including better farm financing facilities. All good citizens and friends of agriculture should and will aid in the work to build it up and bring it and the farmer and his family into their own. Yet, the burden is largely on the farmer, for he is responsible for his methods and attitude now that the better ideas are at hand.

It behooves us all to take up our part in the great work of the redemption of American agriculture so pregnant with results to the whole nation and to the generations to come.

A NEIGHBORLY MESSAGE FROM KANSAS.

(Hon. Arthur Capper, Topeka, Kan.)

My friends, I account it a great privilege and honor more than of passing moment to be invited to Columbia to talk to this fine gathering of Missouri people. I come to you as to a citizen of a sister state, but I hope the farmers of Missouri may look upon me not altogether as an alien, for while I live in Kansas and love Kansas—a loyal native son should love his mother state—I have been striving for several years to serve the farmers of Missouri as well as the farmers of Kansas to the best of my ability. Your problems have become my problems, and from a purely selfish standpoint, if no other, I am deeply interested in your welfare and your prosperity, in the agricultural progress of Missouri, in the moral, social, economical and political advancement of your people. A generation ago these two states held widely divergent views on many important subjects. We have not always traveled the same road. Let us thank God that day has passed.

Today the people of Missouri and the people of Kansas stand shoulder to shoulder for the same ideals, fighting the same battles for the betterment of the race. The two states are confronted by much the same fundamental problems. Missouri, the older state with a large city population, has some advantages and some disadvantages when compared with Kansas, a country state with no metropolis within its borders. I say Missouri has disadvantages. I mean the handicap placed upon the moral and intellectual progress by the large city. I recognize the part the city plays in modern life. I admire the enterprises dominating such great centers of industry and commerce as St. Louis and Kansas City; I know the great works and I do not deny their legitimate growth, but I also know the city's slums, the city's vice, the city's floating population, the city's greed, the city's sin of extravagance and the indifference of the average city man to the public good render the problems of the State somewhat more difficult of solution. I do not pretend to say that the man who lives in the great city is any less honest, any less patriotic, any less loyal, any less a good citizen than the man who lives in the country, but I do say that he lives in a different atmosphere. He learns to look upon public affairs from a different angle; he is more engrossed in his own personal pursuits, and unless he is an exceptional man, he gives less thought to what to do for the public good.

So it has come about that we look to the good men and, in Kansas, to the good women who live in the country and in the smaller towns, to lead the way in both moral and economic reform. Without making any pretext to statesmanship, without posing as moral philosophers, the plain everyday farmer-American, by an application of everyday common sense and common honesty and common decency to the problems of the states, are keeping the American people in the right track and are keeping alive that righteousness which uplifts the nation. So I am going to talk to you for a few minutes about some of the great questions which the thinking farmers of Kansas are considering, some of their problems and some of the solutions which they propose, in the hope that you may find here and there a helpful suggestion or a gleam of encouragement and inspiration.

The present-day problems which belong distinctively to the farmers are many and diverse and every one of them is far-reaching in its effect. Many of them are entwined in the very life of the nation. Bill Shiftless, for example, may think it nobody's business but his own whether he raises twenty bushels of corn per acre or one hundred bushels; whether he depletes his soil or conserves the fertility; whether he lets weeds take his crop or keeps it in a high state of cultivation. But Bill is wrong. The price of bread and butter and meat and shoes and clothing and everything the American public consumes is reflected by the size of Bill Shiftless' crop and the condition of Bill Shiftless' farm. One-half of the state or nation cannot prosper if the other half suffers. So the idea of class in America is in reality very small and is growing smaller every day. I have known very few rich people, and there are very few compared to the large number of us common people that Lincoln loved. Now, I feel it a disgrace not to work or pretend to work at something. The influence of one Bill Shiftless is infinitesimal, to be sure, but a few one thousand Bill Shiftless' can make or break a nation, and so it is with every problem with which you farmers are struggling. I do not wonder that the farmer occasionally resents the benevolent interest taken in his affairs by the banker and railroad president and editor and preacher and politician, but you must remember that all the rest of the nation depends upon the farmer; all these men who preach at you and lecture you are particularly interested from a selfish standpoint as well in your prosperity, because their prosperity depends upon yours. So it is not strange that they are so ready with willing advice.

I believe your purely technical problems are in good hands. Missouri has a great Agricultural College, so great that when Kansas was in need of a strong man to place at the head of its Agricultural College we came to Missouri and took one of your big men from the place. Indeed, I plead guilty to being one who participated in the theft, for I was at that time president of the Board of Regents of the Kansas Commission, and I am glad to say that we have never regretted the choice we made. Missouri has every reason to be proud of its Agricultural College and the work it is doing.

But it is not of the conservation of the soil nor of the question of roads nor of any one phase of technical husbandry that I want to talk to you, important as they are, despite the commendable progress we are making in increasing the yield of a field and flock and herd, despite the increased price thereof, measured by dollars and cents which the American farmer has received for his products in recent years. Every thinking man realizes that all men are with the men who till the soil. The Missouri farmer and the Kansas farmer on the whole are doing better perhaps than their fathers did. They are not howling calamity; they are not pessimistic, but they are thinking and thinking deeply on those questions which concern them and their families and they know things are not altogether right. We don't all agree in our definition of the trouble; we don't all agree as to the remedy to be applied, but I think we all do agree that there is something wrong with the present conditions and all agree that they can be bettered. In the first place, we have lost a good many bright men and women who should have remained on the farm. For half a century our national system of taxation and our business system has placed a high premium upon urban life and has discouraged farm life, with the inevitable result that our city population has increased in the past few decades far out of proportion to the increase of farm population. And aside from the alluring opportunities for making money, the call of the city is perhaps a wholesome craving, born as it is of the desire for fellowship, for amusement and culture. But the cost of gratifying this desire in the city is very great, involving loss of neighborliness, curtailment of freedom, sacrifice of identity. We read in the newspapers from day to day of the fights and brawls in the cities, of arrests for drunkenness and of murders resulting from drinking; read of the poverty in the slums where children swarm and the display of the extravagance of the foolish rich; we read of the great need for charity, of poverty that is the result of misfortune or vice; we read of the strikes and the lockouts, of oppression of labor by capital, of great accumulation of wealth to oppress the weak and poor; we see the foolish girls both in the country and in town who, caught by the glitter of the city, flock on its streets, often falling prey to the lust of men who glory in their shame. When we think of all this in the city, can we doubt for a moment that the clean, wholesome life of the country folk is far and away the happiest, the most useful life?

We must, therefore, from a technical and moral motive do everything possible to keep our people who live in the country, in the small towns, from rushing into the already overcrowded cities and becoming consumers instead of producers. We must do everything to keep the best brains of the nation where the best brains originate—on the farm. They will not be wasted there—and there is just one way in which this can be done, and that in my judgment is this: Give the farmer and his family economic justice and the problem is solved. The bright lights and the gay white way lures a few, many perhaps, to the city; the desire to wear a stiff collar and keep the hands clean is the motive of some; the expectation of escaping hard work attracts a few foolish ones, but the vast majority of those people who leave the farm and go to the city, and the vast majority of emigrants who take up the city life instead of the country life, do so because they believe they can make more money in the city; they believe that there are bigger opportunities for them in the city. If we expect to keep them on the farm we must not only show them the opportunities which already exist, but we must see to it that the farm opportunities are in reality as great as those of the city. We must see to it that the city man has no unfair or artificial advantage over the farmer. Let the farmers of Missouri and Kansas get a hundred cents on the dollar for all they produce and they will make country life attractive without any commission to show them how. Give them the money and they will need no guardian to show them how to spend it. As a matter of course, this cannot be accomplished in a day or in a year. Our whole system of distribution must be readjusted in some way before the farmer will attain economic justice by co-operation, and organization is the watchword of American advancement, and the farmer must come to it.

The farmer buys of organized trusts and sells to organized middlemen, and if the farmer is unorganized how can he hold his own? Organized as effectively as the American Federation of Labor, the farmers of the United States could dictate the prices of foodstuffs, and, if they so desired, force the enactment of laws that would place them in affluence and work a hardship to nearly every other class of people. We do not want that, but the country people should be made to realize that in union there is strength and they should get together for their mutual benefit. Why is it that the rural organizations are so rare a thing that a man doing really effective work is regarded as something very much out of the ordinary? Every city has its commercial club, every village has its improvement association. Is the farmer with his broad acres, his investment totaling many thousands of dollars, and his operation sometimes running into tens of thousands, less of a business man than the men who sell a few dollars' worth of goods over a counter each year? It is an easy matter to organize business men of the town and city into one compact body, working together for a common good, if you can show them organization means dollars. Co-operation among the country people means not only that, but broader and better social life and education at home for your children, and I believe this leaven is working.

Wherever you go today—all over Missouri, all over Kansas, all over Nebraska and the other western states—the men and women and children are talking clubs and associations, the end and aim of which are to make life larger and more wholesome. The forces of the countryside are gathering for a great forward movement. Wherever men meet to talk alfalfa and corn and live stock, wherever women sit down for an afternoon, wherever girls and boys gather to contest their corn acres or their cooking or stock raising, there is the comradeship that stirs one as the blast of the trumpet. The future is full of promise of the time when each shall work for the other and no man shall be glad of his fellow's fall or mishap. So I say the fundamental task of rural advance is local rural community building—the gradual erection of strong communities founded on better farm practice, securing a fair profit through better farm business, and growing of mighty ambitions for better farm life.

How can this fundamental rural task best be forwarded in Kansas and in Missouri in 1914? First, organize local community campaigns in as many neighborhoods as possible. Seek the formation of a community council or federation, made up of representatives of all the organizations in the neighborhood that have any interest in the common good—the church, the grange, the women's clubs, the farmers' union, etc. Seek to discover the needs of the neighborhood that perchance may be met by the organized forces of the neighborhood itself. Endeavor to make an intelligent plan of operations for improving the community in all needful respects.

Second, push the idea of better schools for the country boy and girl, including consolidated district high schools and an agricultural department in the public high school Consolidated schools are on the increase in my state, and wherever the experiment has been tried I hear only good results. One such school in a little country neighborhood in Saline county, Kansas, has one hundred seventy-six wagon pupils. They are taken to and from the school in school wagons. None of the hundred seventy-six was tardy last year. Even the wagons, which seem to be the chief objectionable feature, are considered advantageous in this respect—that a number of the pupils always ride together. There is less chance for misbehavior, less chance for any wrongdoing than where the boys and girls have a distance to go on foot, by road and across fields. In the matter of expense, I am told the consolidated school costs little more money on the average than separate schools, but the results in every other way are so much better that our taxpayers who have these schools are glad to pay the difference.

Farming demands educated men and women. Agricultural colleges neither in the classroom nor in their extension service can meet the full need. Every boy or girl desiring the equivalent of a good school education, either in academic or agriculture, should have that training. We are coming more and more to believe that the farmer that can afford to educate his children has robbed them if he keeps their schooling money and with it buys more acres of land to leave them after he is gone. We must work for better rural or graded schools for the benefit of the vast number of children unable to obtain the advantages of a higher education, for more attention to the fundamental and practical in education, for open schoolhouses for the public, and the encouragement of the social center idea in every community. In discussing this great educational question I want to say to you that after a long struggle we feel hopeful in Kansas that we have at last destroyed the infamous schoolbook trust—the merciless book trust that has been loading us up for years with inferior books at outrageous prices. We have put a stop to this ever changing of books with a law providing for state publication of textbooks and distribution to the people at actual cost. We believe this will supply better books at almost half what we have heretofore paid.

Third, we must develop the collective or co-operative method of doing business on the farm. The co-operative plan is spreading. It should not be entered upon hastily, but it promises to render more help to the farmer than does perhaps any other one thing. Heretofore the farmer has been only a hireling in his own house; been the laborer who did the hard work, but received only such profits as were left him by his industrial masters. These masters were men from whom he bought his supplies, men who converted his products into secondary form, men who marketed his products, and men who loaned him money to carry on his business and buy food from other farmers while he worked. When the railroads and other commercial and industrial concerns borrow money at much less rate and on security that is bound to fluctuate more rapidly than land or live stock, or crop values, it is time the farmer was financed on a more stable and more just basis.

The farm credit system of Europe may not meet our needs, but what we have got to have in the future is more stable loan values, lower rates and longer term, co-operative features by which the interest is paid with the principal each time and the loan wiped out by the time the term is ended.

I hate demagoguery and would do nothing to stir up class feeling, but the facts in this matter must not be blinked at. It will require only a little thought to show that other interests have prospered in a greater degree than has the farmer who is the creator of the basic wealth. The merchant who sold the farmer his supplies, the grain buyer and the corn buyer and the cattle buyer, and the cold storage plants who have marketed his products, the mills and packers who have converted his product into more finished form, the money lenders on time mortgages who have furnished him credit—all these have taken their tolls, and in nearly every instance their profits have been larger than those made by the farmer himself. It can be shown beyond any question that in some lines of farming the farmer receives only thirty-five cents on the dollar which the ultimate consumer pays for the farmer's product.

If the farmer is to take control of these profit-absorbing phases of his own business and get his proper share of the final consumer's dollar, to effect this result, it seems to me that our farmers everywhere must definitely resolve upon five lines of co-operation: Co-operation in big supplies for making farm products; co-operation in raising farm products; co-operation in finishing farm products; co-operation in standardizing and marketing farm products, and co-operation in securing capital for making and marketing farm products. You must do those things for yourself. If you depend upon the people in other walks of life to effect and carry on this work, it had better be never undertaken.

In every community lives some man or woman capable of leadership who could start a movement of benefit to the whole surrounding country, and the people know who to follow. Leadership is a gift of God. He will hold you accountable if you are not giving your best in service. If our country is worth living in and fighting for, let us love it so well that we shall be glad to accept the charge of citizenship as a duty as well as a privilege and care. It is a business. Give it businesslike thought and consideration. It is such men as you who are most deeply interested in every move for civic reform and good government in the State of Missouri—men who go ahead without regard to the applause or abuse of the crowd, men who have the breadth of vision to see the right and the moral courage to do the right, although the heavens fall, upon whom we must depend for the solution of the many pressing problems in our times.

I am happy in the belief that the world grows better from age to age. We are nearer the long sought brotherhood of man. Ten years ago the United States was headed straight toward plutocracy, corrupt and tyrannical; today the sun of free government again shines in radiant promise, which seems almost too good to be true. The Sermon on the Mount, the most brilliant burst of oratory the world has ever known, commanded us to love our neighbors and do good everywhere. The world now at last is beginning to see what Christianity means, that it really proposes to shape the whole of human society here and now, according to its laws of good will and human fellowship. The human race is developing wonderfully in charity and unselfishness. The percentage of those who are mere beasts of burden decreases. Our everyday acts, our institutions, our laws, our practices, more and more are coming to be directed more truly and unerringly to the ends of justice, equality and real liberty. I am firm in my conviction that never before have the consciences of men and women been so widely awakened or so keenly active. I know that the world today scouts at many things which we accepted a few generations ago as a matter of truth. In business, in politics—in fact, in every department of human life and activity—we are establishing new standards and higher ideals. But there is still so much to do.

Privilege and privileged classes, the public plunderers, political corruptionists and grafters without regard to party, must be eliminated; we must work for a clean, efficient government as against selfish partisanship. The cost of government in the State of Kansas, in the State of Missouri, and the country over almost doubled the last ten years. Not only are we living beyond our means, but living beyond our means to the third or fourth generation to come. This all has to be paid some time, if not in direct taxes then indirectly, and the end is not yet. The whole American Republic seems wild with spending. We are living high, in the family, in the town and as a state and as a nation. If the public money supply was as inexhaustible as air, as so many agitators try to make it appear in urging appropriations, the result would not be so serious, but we must forcibly keep in mind that the government of the nation, state and locally has nothing to give except what it collects by taxation, and this burden lies heaviest on the man at the end of the line. As a part of the readjustment or liquidation which the entire business world is now passing through, lower the cost of living and teach us the lesson of thrift and economy in public and personal affairs. It will be to the great and lasting advantage of the country as a whole. The government must stop spending money recklessly and wastefully; expenditures for battle ships, rivers and harbors, monuments, public buildings—in these and almost everything else there has been a shameful extravagance. Congressmen actually have urged, in many instances, million-dollar appropriations just because the graft was to be spent in their own states; have boasted of their raids upon the public treasury, and the whole thing is ruinous, a disgrace and a betrayal of the public welfare. The extreme has been reached in social public expenditure. Economies on a large scale will be brought about if the cost of war establishments can be curtailed and if municipalities and commonwealths will lop off a long list of unnecessary expenditures which make for higher taxes. We don't want to be niggardly or miserly, but just provide full measure of plenty and stop there. But first of all, drive deeper into the public conscience the determination to make economy, honesty, simplicity and efficiency the watchword in the administration of the people's business.

We must help to fight for less technicality and speedier justice in the courts; for a system that will simplify legal procedure and make justice free in fact as well as in theory, to the poor as well as the rich; protect the rights of men, lift up the fallen and help the down and out; imprison the big thieves as well as the little ones; impartially enforce all of the laws and insure a greater, larger measure of popular government, of human welfare and social righteousness. We are making too many laws and enforcing too few of them. The courts must reform their procedure, a relic of the Middle Ages, or the people will reform the courts.

We must stand for more equitable division of profits on farm products by the elimination of grain gamblers, the beef trust and all other jugglers of markets, the interlocking directorates and financial pirates who play the watered stock game, so that the producer and the consumer will be in a position to get more and the manipulators less.

We must lose no time in taking our prisons and charitable and reformatory institutions from under the control of politics and put them on a broad and lofty humanitarian basis, an honest, well-managed business basis, rather than under the domination of selfish partisanship. No man is more active for partisan administration of the prison or reformatory than is the politician. The professional politician has always been found fighting to maintain the old order of things, fighting to keep out those reforms which surely destroy graft; fighting against the open and above-board methods of handling public business, and they will have their way every time if the apathetic citizen does not wake up.

The curse of intemperance must be utterly banished from America. And let me say in passing that, in my judgment, one of the greatest blessings ever bestowed on the State of Kansas, and the law which is doing more to make useful men and women and bring prosperity and happiness to our state, is the amendment to our constitution absolutely prohibiting the traffic in intoxicating liquors from one end of the state to the other. It has been on trial over thirty years. It has reduced the consumption of liquor to the very minimum and has emptied our poorhouses, our prisons and asylums, made better homes, happier and healthier families and brought a higher standard of education and intelligence. It is endorsed by more than three-fourths of our people, and is a portion of the fundamental law of our state nearest and dearest to their hearts. I hope you and I may live to see the day when liquor will be excluded from every state in the Union.

The black and damning social evil must be eradicated; the purity of American womanhood must be maintained; the indefensible double standard of morals must be wiped out absolutely; the exploitation of children in factories and mills must be stopped; and there must be vigorous prosecution for wife and child desertion; must be pensions for indigent widowed mothers and dependent orphan children; especially must our country be spared of war on account of the deplorable conditions existing in Mexico. Forcible intervention in Mexico would mean the raising of an army of half a million American youths at a cost of much more than one million dollars a day, and many lives risked in a bad climate, probably have years of contention, boys sent home physical wrecks and new blood forwarded to replace them, draining the nation's vitality and increasing the nation's burdens. Who will call for such a sacrifice? Owners of property in Mexico, many of them, are mere gamblers on a long chance, big interests which find in war new opportunities for plunder. The real patriotic Americans stand behind their President to prevent this nation from being stampeded into a costly war by a selfish and conscienceless war party seeking some selfish advantage. We have in Washington a President whose expert knowledge of the history of the people and the nation is surpassed by no other statesman; the world has no stronger champion of the rights of man; his patriotism is as unquestioned as Lincoln's; and his conception of the part the American nation should play in the turmoil of this hemisphere is clear and far-seeing and, speaking as one who does not belong to President Wilson's political party, I believe such a man should be trusted to do what is wise and right. What the President wants and the country wants is men, strong men, unselfish and broad-visioned, able to help him and his cabinet lead the way.

My friends, I have touched upon a few of the many problems which crowd upon us instantly demanding solution. I have abiding faith that the good people of Missouri and Kansas will do their part to abate these ancient evils, to right these age-old wrongs and put our twentieth-century civilization on a higher and happier plane than any which has yet blessed or prospered humanity; that the misery and suffering of the world may be lessened; that equality and justice and liberty may be found all over this nation and all humanity brought together in the universal brotherhood of man. And friends, I come here as a faithful native son of liberty-loving, progressive Kansas to join hands with you God-fearing people of stalward, loyal, grand old Missouri, in a solemn pledge made in the beginning of a promising new year that we will live our lives righteously, that we will fight the good fight for human progress and higher ideals and will do our part, be it large or small, to make this world a better, a cleaner, a little more decent, a little happier, a little more God-like.

HOW ONE RURAL CHURCH WAS MADE TO SERVE ITS COMMUNITY.

(M. B. McNutt, Glen Ellyn, Ill., field assistant of the Department of Church and Country Life of the Presbyterian Board of Home Missions.)

Thirteen years ago last spring I went directly from McCormick Seminary to Du Page Church, which I served 12 years. It is a country field thirty miles west of Chicago and six miles from the nearest railroad. It is surrounded by no town or village. The church and manse stand alone on the open prairie.

It is one of the oldest churches in Illinois. The people are an average country folk of Scotch, English, Irish and German descent. The congregation was then worshiping in a frame structure built half a century before. It was the old type of church architecture—one room, boxy, straight board seats, small, plain glass windows and with scarcely any furnishings.

The church and manse lots, enclosed by the remnant of a wire fence, were veritable weed patches. North of the church stood some old tumble-down sheds, the sight of which made every passer-by shudder and think to himself, "Surely the Lord hath deserted this place." The manse had the same neglecten appearance and everything about the place reminded one of a man who had gone away on a long journey and had forgotten to leave any one in care of his abode.

One of the elders, a farmer, had been preaching for three years, or until he died. The last minister had resigned with $400 back on his salary, which amount the church borrowed to pay the debt.

No one had united with the church for five years. A clubhouse has been fitted up in the neighborhood to house an organization that called itself "The New Era Club," but whose chief object and amusement turned out to be dancing, though its original promoters had hoped for it something better. Many of the young people of the neighborhood, including church members, were spending evenings there. The dancing element from the surrounding towns had also begun to frequent the place.

The only service the church attempted was to open the doors on Sunday for preaching and Sunday school. Collections were taken once a year each for missions and ministerial relief, and this was practically the extent of the benevolent work.

Two-thirds of the Sunday school teachers were members of one family. The three elders were also trustees, and each taught a class in the Sunday school. One of these elders was also a Sunday school superintendent, Sunday school treasurer, church treasurer and treasurer of benevolences.

The condition of this church at that time was not exceptional. Other country churches were and are still in the same plight. Some people were saying the country church has outlived its usefulness, and that was and is true of the old type of country church. Many such have given up in despair and disbanded. Many others still exist at the same dying rate. What was the matter with this country church? What *is* the matter with that type of country church? My diagnosis of the case is, simply, a lack of vision, and the want of adaptation to the new needs.

There was a time when preaching and an occasional pastoral visit was all that was demanded of the country parson, and the people were thought to perform their part when they went to church and paid the minister's salary. But it is not so now. What was to be done?

Jesus, the head of the church, once said, "I came not to be ministered unto, but to minister." Believing, therefore, that he intended his church to be a ministering church, I began at

Du Page with the idea that religion has to do with the whole man—body, mind and spirit; that it deeply concerns his social life, his business life, his education, his amusements, and everything else that pertains to man's well-being.

I was brought up in a country church and the idea I got of it in my boyhood was that the church is a sort of a Sunday affair, which dealt exclusively with men's souls and good clothes. It was also a place of long faces, for if there was any hilarity among the boys at "meetin'," we could always depend upon the hazel brush being brought out when we got home; a place where dead men's bodies were carried, as the funerals were invariably held in the church. Well do I remember also how fearful I was of the preacher when, clad in his long black broadcloth coat, he would make his annual visits to our home. Two men I greatly feared in those days. One was Mr. Matteer, the preacher, and the other Mr. Turney, the butcher. As boys and young men we never associated our good times with the church or the minister—except the annual union Sunday school picnic, which was really a delightful occasion. The church did not seem to have much to do with our daily lives, or our occupations and amusements. It demanded nothing of us, apparently, but to go to church and sit still. Our companionships were outside of and independent of the church. It was the day of the husking bees, the apple-cuttings, the sugaring-offs and all those most delightful, wholesome and interesting neighborhood pastimes in which old and young alike engaged with such pleasure and profit. What a pity they have gone out of date! It was before the day of commercialized pastimes—the amusement parks, the public dance halls, the cheap vaudevilles and the like. It is alarming how rapidly these modern creatures are creeping in upon the country people in these days of the trolley, the automobile and the horse and buggy which every young man on the farm now possesses—even the hired men. It is far easier now for the country people to get into the world current than it was forty years ago.

But coming back to the old type of country church, it did not seem to offer us much but a long, dry sermon on Sunday—and it *was* dry to the boys and girls —hard, straight-backed seats, a book from the Sunday school library in which the good boy and girl always died and went to heaven, and those delightful annual visits by the pastor!

Now, I love that dear old country church of my boyhood days, back in the hills of Pennsylvania, and I like to think that it did me a great deal more good than I realized either then or now. It might have done worse. And it is furthest from my purpose to speak disparagingly of it or of the dear people who were its leaders. I love them every one. It perhaps served its day. But the point I am making is that that type of country church will not meet the needs of the country people today.

With these recollections of my childhood and the church, I resolved first of all, when I went to Du Page, that I would get next to the boys and girls; that I would make that old church a great center of attraction. Notice I did not say *the* great center. I do not believe in the church attempting to do everything or trying to do things that might better be left to other institutions. But I would make it *a* great center of attraction; a hub of joys, of happy memories and associations for that entire community. I determined, with God's help, to make it an indispensable institution to every man, woman and child within its reach.

One of the good old Scotch elders—they called him "Uncle Dan," and he was one of the dearest and best of men—put his arm around me one day (it was a way he had of greeting everybody), and he said very seriously, the tears rolling down his cheeks, "Our young people have got to dancing and they are being wooed away from God and the church. How are you going to deal with them?"

I said, "Uncle Dan, I know from experience that young people will dance if they have nothing better to do. I propose to give them something better."

"Well," he continued, "just before you came here our session passed a rule that there was to be no dancing by members of the church, but I fear there is going to be trouble when we come to enforce it."

I replied again, "Uncle Dan, it is impossible to shut off a stream entirely unless you give it some other outlet."

I set to work, first, and organized an old-fashioned singing school. It might have been anything else just as well—a class in scientific farming, animal husbandry, domestic science, or nature study. I chose the singing school because I had some knowledge of music. The idea is to have something that will afford a point of contact between the leader and the people, and also to get everybody interested in *doing* something. The singing school met one night in the week in the church. There was some good musical talent among the young folks and this new enterprise proved to be a great hit. Out of it grew a good strong chorus choir, a male quartet, a ladies' quartet, an orchestra, and some good soloists. Besides, it improved the singing in the church and Sunday school a hundred per cent.

We began at once to observe all the special days—a dozen or more. This kept our musicians busy. And the first thing we knew the young people and many of the "outsiders," as they were called, were taking part in these special services. They just couldn't keep out. And, of course, the fathers and mothers had to come to hear their children sing and play and speak, and likewise the doting grandparents, and the uncles and aunts and cousins and sweethearts all had to come.

Next we started what we called a gospel chorus. We got some live new song books and went singing around from home to home. At first some of the people were a little shy of the gospel chorus, but soon they were vying with each other to see who would secure these singers. The chorus went to the homes of the aged who were too feeble to come to the meeting house. It sang for the sick. It sang in the homes of those who never heard any other music.

An athletic association already existed. We encouraged the boys in their field-day sports. Two or three baseball teams were organized. We played successfully many of the surrounding towns, including Chicago. We never challenged the Cubs, but we did challenge a team from the Fullerton Avenue Presbyterian Church, Chicago, and beat them on our grounds one Fourth of July 20 to 0. The pastor of the church had come along with his boys, and he kept insisting that we must have some professional players from outside, but they were just the husky farmer lads.

The church building was not suited for social gatherings, so a series of sociables was planned at the different homes. These were not the money-making kind; they were sociables indeed. The older people often attended and engaged in the play with the young folks. Refreshments were served free. At these gatherings special attention was given to strangers and to the backward boys and girls, and a few of us always had upon our hearts those who were not of the fold of Christ. They grew to be a sociable lot of folks, I tell you! They became well acquainted. And such fellowship! Such friendships! Such companionships! And all centering around the church.

I shall not have time to describe the various activities that have been carried on in connection with the church, but shall tell only of the work of the boys and young men, because the difficulty in many churches seems to be to interest and hold the young men and boys.

A young men's Bible class was organized. It grew until it had nearly fifty members enrolled. This class met with the Sunday school for Bible study. Bible study was emphasized above everything else. But we believed in doing the Word as well as studying it. So a monthly meeting was planned for social service. The first Tuesday night in every month would find the young men at the kirk. This meeting was opened with a devotional exercise. Then a musical and literary program followed. They debated a great deal. Papers were read and talks made on agricultural topics, current events and various subjects, some of which were of special interest to young men. Once in a while the class would organize itself into a moot court and try some fellow for some mischief with judge and jury and all the various court officers. The boys were getting a lesson in civil government here, you see, as well as having a good time. Sometimes they would have a little spread of some kind for the sake of good fellowship. It is a great thing for young men to break bread together under this kind of auspices.

One of the things we emphasized a great deal in these meetings was extemporaneous speaking. I am convinced more and more that right here is where our farmers as a class have lost out in times past; they have not learned how to talk up their case. The lawyers and the politicians and the business men who have learned to talk have gotten into the offices and responsible positions and they boost their business and make laws to suit them, but they neglect to talk up the farmers' business or to make laws to benefit them. I have been told that in the Congress before the last there was only one farmer—that is, a real farmer that actually makes his living by holding the plow handles or driving his own team. Of course, there are plenty of "cavalry farmers" in Congress, as they call them down south, but only one real farmer. There is not the representation of farmers in our state legislatures that there ought to be when we come to consider that nearly the half the people of the nation are engaged in agricultural pursuits.

This extemporaneous speaking is developed in a very simple way. About five of the men are called to the platform every night and are given a topic, something we are very sure they are familiar with. This is important. The speakers must first know something to talk about before they can talk. Then they are expected to speak on these topics. They begin it with fear and trembling. I have seen them sweat at this as much as they ever sweat in the hayfield. But it is wonderful how they develop in this work through a period of years. As a result of this training there are a number of young men in the community who are good public speakers. Now these young men utilize this speaking talent in various good ways. For instance, two of them posted up on some crooked work which a notorious politician had been doing there, and went to the town meeting on election day a year ago last April, and by their knowledge of parliamentary law and their being able to talk and think on their feet, exposed that man's crooked work in such a way that it resulted in defeat, the first time he had ever been defeated in that township at an election. So you see how it worked out for cleaner politics and a better type of citizenship.

Again, the young men's Bible class has held what they call open-air gospel and song services in a grove in the summertime and in the public schoolhouses in winter. These meetings have been a great blessing to the young men as well as to those to whom they minister. In the pastor's absence on Sunday his Bible class has frequently taken charge of the service, three or four of the members giving short gospel talks.

The young men conduct a lecture course, not for pecuniary profit, but for the sole and only purpose of furnishing wholesome entertainment for the community. We have had some hundred-dollar attractions. The entire community patronize this lecture course without exception and regardless of creed. The Catholics and the German Lutherans attend. People from the surrounding towns are frequently seen in the audiences, driving sometimes ten miles or more.

Another enterprise which the young men's Bible class has introduced and supported is a bureau of publicity. The boys invested in a small printing press. They, with the assistance of the pastor, do all the church printing and issue a local church paper.

You are wondering what became of the dancing? Well, they forgot all about it in about two years, and there has not been a dance in the New Era hall for over eight years. The building stands idle and is crumbling to ruin. The pastor never mentioned dancing in the pulpit or to a single individual in private. It was simply starved out.

The pledge system of finance has been introduced for the local work and for benevolences as well. Our ideal is a pledge from every man, woman and child. We have devised an envelope for making payments which answers all purposes. A financial secretary keeps an account with each individual and sends statements at the end of each quarter if necessary. We have found that the pledge system is a great improvement over the old way of taking collections once a year for the "Boards." This church in the last ten years, in addition to building a $10,000 edifice, remodeling the manse, making other improvements and increasing the minister's salary forty per cent, has given to benevolences $5,270, as against $6,407 in the fifty years preceding.

As a rule the various societies in the church are not made money-raising institutions. The system for raising money by sociables, fairs and other devices has been almost entirely abolished.

As an ideal we are working toward the entire support, ourselves, of both a home and foreign missionary.

There have been no evangelistic services in this church by professional evangelists for ten years. Formerly this was a favorite method. Such distinguished evangelists as Moody and Sankey, and Majors Cole and Whittle have conducted meetings in the Du Page Church. And these were successful, too. But there is not another ten-year period in the history of the church that shows as many accessions as the last decade.

The one by one method as illustrated by the Master and by Andrew and Philip has been used. A great deal of the evangelistic work is done through the Sunday school. Every class is a personal work class. The teachers are encouraged to lead their pupils in personal work.

Great care is taken to press the claims of Christ and the church upon the young. The parents co-operate with the pastor in this work of dealing with the young. This is done through pastoral visitation and through pastoral letters. Occasional sermons are preached to the children, and a christian training class is conducted for those who are about to enter the church. There have been few communion services when there was not somebody to unite with the church, and between communion seasons members have been received. There is scarcely a person in the parish between the ages of ten and twenty-one years of age who is not a member of the church.

Eventually this church outgrew the old building, and it rose up and erected a new one, costing, including furnishings, $10,000 in money and the equivalent of another thousand in hauling, which the farmers did gratis. Practically all the money was subscribed before a shovelful of earth was moved for the foundation. No offering was taken at the dedication for building purposes or for furnishings. Every person in the community was given opportunity to help build the new church. And all responded heartily. The Catholics and German Lutherans contributed to the building fund and helped to haul the materials.

The new structure is Gothic in design and is built of brick. The interior is finished in red oak. A handsome fresco in water colors adorns the walls, with panels of burlap below the surbase molding. This with the beautiful art glass windows gives the interior a most pleasing and homelike appearance. The floors are covered with cork carpet. The main auditorium has a bowl-shaped floor and seats three hundred people. The assembly room of the Sunday school apartment, which is separated from the auditorium by accordion doors, has an additional one hundred and fifty sittings. There are fourteen rooms in all, including a number of classrooms, choir and cloakrooms, toilet, pastor's study, vestibule, kitchen, dining hall, cistern, and furnace and fuel rooms. The building is heated with hot air furnaces and lighted with gas. A system of waterworks supplies water wherever needed about the building.

To sum up the principles underlying these methods: Make the church a ministering institution. Let it be many-sided. Let it seek to serve the whole man, body, mind and spirit, rather than the spirit alone. Let it seek to make this a new earth by teaching the people to do *all* things to the glory of God. Let them know that honest toil is sacred, that innocent amusement is holy, and that these are also ways of praising and glorifying God as well as the Sunday devotions. Let the church seek to discover to men their talents and then encourage and help them in their development. Distribute the responsibilities as widely as capacity for efficiency will warrant. Lead everybody into doing something useful for somebody else. Make the church to minister to the whole community rather than to a particular body in the community, the aim being, not to make Presbyterians or Baptists or Methodists or Catholics, but to create an atmosphere in the neighborhood to breathe in which will help Presbyterians to be better Presbyterians, Baptists better Baptists, Methodists better Methodists, Catholics better Catholics, and all better men and women—an atmosphere that will inspire to higher thinking and nobler living.

Let there be as much preaching of the gospel as ever—and more—for the gospel of Christ is still "the power of God unto salvation to every one that believeth," but let there be more of the spirit of Christ in ministering to men. Make it easy for people to do right and as hard as possible for them to do wrong.

WILD ANIMALS AND BIRDS.

(Col. G. O. Shields, president of the League of American Sportsmen, 1110 Simpson street, New York.)

I don't know whether I am going to be able to talk much or not. They tell me that things don't happen on the 13th of the month any more than any other day, but they happened to me yesterday, all the same. I caught the worst cold yesterday that I ever had in my life. Two engines that were pulling the train on which I came from Cedar Rapids broke down at different times. We developed a hot box two miles out of the Union depot, St. Louis, but finally got in there four hours late—and it was on Friday, the 13th of January! So I am here tonight unable to perform my duties decently and respectably, but fortunately I am limited to thirty minutes, after having traveled fifteen hundred miles to talk to you people. I am to show you seventy-five pictures of birds and animals. I was told by the boss, the man who pays the bill, that I have only thirty minutes, and I am going to try to get through in that time, and you will be mighty glad when I do get through.

I would like to talk to you all that thirty minutes about the value of insect-eating birds, but I can do little more than touch on that subject. I should like to appeal to you with the voice of an old sportsman to save the quail and the prairie chicken from the gunner. I was for many years an ardent sportsman, but I quit all shooting thirty years ago, when birds began to grow too scarce to kill, and I have been doing my hunting since with a camera. I shall show you some of the results of this kind of sport. Now I am begging the sportsmen of the United States to make the sacrifice I have made. Let up on the birds; let up especially on the quail and the prairie chicken, two of the most valuable insect-eating birds in the world, and let them live and take care of the crops and the fruit trees and the forest trees of this country.

The first picture I am to show you was made by a man in Maryland, who is an ardent sportsman. A pair of eagles made a nest in an old tree near his house a few years ago. His first impulse was to take his gun and kill the birds and have their skins upholstered and set up in his den, where he has many others; but he thought better of it, and instead of that he went down there and built a scaffold in another tree, thirty feet away from the nest, got up there with a camera and spent the better part of six days, going every morning and staying nearly all day trying to get a picture of them. Finally, on the sixth day about noon, when the conditions were just right, the male parent bird came with a full grown rabbit in its talons. The man pressed the bulb and got this beautiful picture, and he says he would not give that negative for the skins of any dozen birds he has mounted and set up in his library. And many other men who have substituted the camera for the gun have found the same intense pleasure in it that this man has found.

Here is what the gunner gets if he can shoot well enough (showing a pair of dead quail). He brings home a few mangled, bloody, lifeless birds. He has had some fun in killing them. He and his family may have a passing satisfaction in eating them, but if this man has the right kind of a conscience it will punish him ever after for having destroyed such useful and beautiful birds. The quail, the ruffed grouse, the prairie chicken, the robin, meadow lark, the blackbird, and fifty other species of birds in this country live all summer long on insects, and many of them live all winter on weed seeds, the seeds of noxious weeds that you farmers have to fight all summer.

Mrs. Margaret M. Nice of the Massachusetts State University has been studying the quail in domestication for many years. She has counted out and weighed out the food to each bird and has kept careful records of what each one ate. She has arrived at the conclusion that each adult quail eats seventy-five thousand bugs and worms each summer and over six million weed seeds each winter. And yet, strange as it may seem, there are men all over this country who, every time we introduce a bill to afford better protection for the quail in any Legislature, protest against it and beg their Representatives to kill it; and in many cases they succeed in defeating our measures. On the other hand, there are good-natured farmers everywhere who if they are fortunate enough to have a covey of quail grow upon their land will not only permit, but invite some friend to come out in the fall and shoot them. The man goes out with a spike-tailed dog and a double-barreled gun, finds the birds and follows to a finish. Or, if one or two of them do escape, he goes home and cusses for a week because he did not get them all. This is a short-sighted policy on the part of the farmer whose best friends these birds are.

Experts in the Department of Agriculture have estimated, after years of careful study, that each adult quail is worth twenty-five dollars a year to the farmer on whose land it lives. When a quail is cooked and served on a table it weighs about four ounces, and the man who eats it is eating meat that is worth six dollars and twenty-five cents an ounce. Can you farmers afford to feed the gourmands on meat at that price, and especially when you don't get a penny for it?

We are trying to get all states that have quail to enact laws to stop the killing of them at all times, and the same in regard to prairie chickens. The sportsmen of this country have had their day; they have almost exterminated all game birds. Ninety per cent and the other ten per cent will soon go unless you stop all shooting. Make the shooters put away their guns for at least five years and give the birds a chance to come back. There are ten million shotguns at work in this country. There are in round numbers one hundred million people in the United States, and we claim that the other ninety million people should now rise up and assert their property rights in these birds and permit them to live.

A man who has studied the ruffed grouse in domestication and in its wild state for years has arrived at the conclusion that each one of those birds eats two and one-half bushels of bugs each summer. Yet there are men all over the country who want to kill all they can find of them. They want three months of open season each year and no bag limit. They want to kill ten or fifteen a day all through the open season. I have heard men complain bitterly that they were not allowed to kill more than five or ten ruffed grouse a day. A man, as I said in the beginning, can have a great deal more fun photographing birds than he can in shooting them, and he has the satisfaction afterwards of knowing that the birds he shot at with his camera are still alive, enjoying themselves, and fulfilling the end for which God placed them on the earth.

This is an age of object teaching, and I am going to give you an object lesson in game protection that is the most beautiful and most effective I have ever learned. I have not time to tell it to you in full; but the pictures talk for themselves.

A farmer in Southern Colorado, in the San Joachin valley, put down an artesian well near his house, which you see in the center of the picture (showing picture), and got a fine flow of water. That was in the fall of the year. The surplus water ran off a hundred yards from the house into a depression and formed a pond of about three acres. It was just when the ducks were starting south on their migration. The water had only been there two or three days whan a flock of ducks passing saw it and dropped in. The man and the boys were at work in the field back of the house. One of the boys saw the ducks dip and he said to his brother, "Hully Gee, Jim, look at them ducks. Let's get the gun and kill them." And the boys started to the house on a run. But the old man had lived longer; he had learned the lesson of human kindness to dumb creatures; he had learned the value of living birds over dead ones, and he called the boys back and said:

"Now wait a minute, boys, and let us talk this matter over. Those ducks have come from away in the Arctic regions where they were hatched. They are on their way south to escape the cold winter. They are tired and hungry. They have dropped in here to rest and get something to eat. Now, let's treat them white; let's not kill them."

The boys thought that over a minute; it sounded good. They went back to work and the ducks stayed there all afternoon and other flocks dropped in and joined them. That night that kind-hearted old farmer took a pail of corn and went down and scattered it along the bank of that pond. That is different from what most farmers do. I know, for I was one of them. I grew up on a farm and am like that politician you have heard of who was talking to an audience of farmers. He wanted to get next to them. "Why," he said, "I am a farmer; I was born on a farm and grew up between two rows of corn," and a fellow in the audience yelled out, "Punkin, by thunder!" I did not exactly get mine that way, but I grew up on a farm all the same, and I know what I am talking about. The ducks stayed all night and all day, and the next night the boys asked their father if they might go down and feed the ducks. "Yes," he said, "Go ahead." And they went; and they went the next night and the next. They fed them all fall and in a few days they had them so tame they would come up and feed from their hands. The ducks stayed until the pond froze over and they had to go south, and by that time there were over two hundred of them. They were shot at all the way to the Gulf of Mexico. They were shot at down there all winter. They were shot at all the way back the next spring, because they were passing over heathen territory where men still claim the right to shoot birds even when on the way to their nesting grounds.

Of the two hundred birds that left that little pond in November only a paltry thirty lived to get back the next spring; but they remembered where their friends lived. They remembered that little haven of rest, and they made a bee line for it when within twenty miles of it. The family was down there to meet them again and had grain for their breakfast. The ducks gathered around them and ate from their hands again, though they had been persecuted all winter and had been as wild in the south as any other ducks. It is a long story. I cannot tell you all of it. That first picture was made eight years ago. Those ducks have been coming there every year ever since, and have been increasing in numbers from year to year in spite of all the slaughter elsewhere, until last fall over two thousand of them came there, and they stayed until the pond was frozen over again.

Now do you see what you can do with a little remnant of bird life if you will take care of it?

A farmer over in Illinois, the president of the Illinois Corn Growers' Association, Harvey J. Scouse, has a farm of two thousand acres. A pair of prairie chickens migrated down into Illinois five years ago, one cold winter. In the spring most of them went back, but one pair stayed and nested on his farm. He has taken good care of them, has not shot at them, although he is an ardent sportsman and president of the Illinois State Sportsmen's Association. He has not fired a shot on his land and has not allowed anyone else to do so, and today he has over three hundred prairie chickens there.

Now, I beg of you, take care of the quail you have on your farm. If they nest and raise a covey next summer don't let anybody kill them. Feed and care for them as this man did of the ducks that came into his pond, and you will soon have plenty of them.

Now, on the other hand, suppose the farmer had let the boys go to the house, when that first flock of ducks came in there, get the gun and go down there and fire a shot or two at them. Or, if they had one of these infernal machines known as an automatic or pump gun, they might have fired a volley into them; they might have killed half or two-thirds of them. The rest would have gotten up and gone away and never come back again, and this beautiful piece of history never could have been written and these beautiful pictures never could have been made.

It pays to take care of the remnants of wild life you have, and if you do that you will soon have plenty of it.

The time was when the wild goose was as abundant all over this country as the wild duck ever was; but it was a bigger mark and easier to get at. It has been hunted more industriously because the men got more meat for each cartridge. The result is the splendid birds are almost extinct. Only a very few of them are left anywhere. Twenty-five years ago you could often see five hundred of them feeding in a wheat field almost anywhere in this western country. You could often see a hundred or five hundred of them on a sand bar here in the Missouri river; but not one today. Once in a while you may see a small flock; but they are mighty nearly gone and the last one will be in five years more unless we stop all killing.

The sand crane is another splendid bird that was formerly here in millions. I have seen three or four hundred of them in a flock when I was a kid on the prairies; but they are almost extinct today. The only place I know of any of them nesting is in Saskatchewan Territory, away in Northwest Canada. There are a few there yet, but their days are numbered. The gunner is up there as well as everywhere else, and he will get them sooner or later.

The average farmer considers all hawks and owls his enemies and kills every one he can get a bead on. It is a serious mistake. These hawks and owls are among your best friends, because they eat the gophers, the field mice, rats, moles and other things that damage your crops and trees. Only two species of owl and three species of the hawk ever disturb domestic poultry, and they carry off a chicken very rarely. In the meantime they and all the other "fifty-seven varieties" are hunting rats, mice, field mice, moles and all these other rodents. And when they don't find enough of these to feed their young and themselves, they go into the fields and hunt grasshoppers and potato bugs and beetles of all kinds; they go into the woods and hunt down the insects that are eating the forest trees and destroying them.

This (showing another picture) is that beautiful little screech owl that sometimes comes and builds its nest in the big oak that overshadows the house and raises its young there. Some people kill these because they say they carry off little chickens and ducks. Possibly one does carry off a young domestic fowl once in a whole summer, but it is very seldom. In the meantime they are hunting mice and rats and large insects.

Now if a pair of these birds nest about your house next spring don't kill them, and don't allow anyone else to. Get your camera and make a picture of them. Or, if you have not a camera, send for some friend who has one, take the little chaps out of the nest, set them up and make a picture of them. Take them out again later and make another picture. One of them may get peeved, like this one on the end did, and turn his back to you and look cross-eyed at you, but he will get over that in a minute and cuddle up to his little sister and be just as chummy as ever; and when the birds grow up and go away you may have a beautiful lot of pictures to show your friends.

The kingbird is another that is sadly misunderstood. The average farmer considers him a pest and kills him at sight because he eats a few bees; but this bird eats only the drone bees. He will not eat the honeybee.

Now a pair of these birds, or a pair of any of the other birds I am talking about, in raising a family of young will feed them in the few weeks they are growing up from twelve thousand to fifteen thousand insects. Even this kingfisher that you usually see about the water takes an hour off once in a while and goes into the meadows or marsh hunting bugs for a change of diet. He is a persistent fisherman. He takes up a position somewhere about the water and watches for minnow to come to the surface. Then he goes after it and gets it. When he gets three or four he has had a square meal and he quits and goes away. In other words, he quits when he gets enough, and that is more than I can say of some men I have known. I have known men who would fish all day long, and way into the night if the fish kept biting, and stack them up on the shore or in the boat, and if it were hot weather probably half of them would spoil; but the men were fishing for a record. They wanted to go home and tell what great sport they had had.

I have known men to string up a hundred of these dead, rotten, stinking fish, stand up by them and have a picture taken. I have known men to do the same with birds—string up a hundred or more of them and stand up by them with their guns and have themselves photographed in an attitude that seemed to say, "See what a mighty hunter I am!"

But few people do that nowadays. If they do succeed in making a big catch of fish or a big kill of game, they don't parade up the main street with a brass band and send for the photographer. They wait until after dark, sneak it into the back door and don't even tell their next door neighbor about it. The world is growing better all the time.

This kingfisher bores a hole in the bank somewhere along the stream and builds its nest in there. So when you are canoeing or fishing or hiking and see a hole in the bank, and birds going in and coming out, take the little fellows out and get acquainted with them. If you have a camera make a picture of them; if not, take some friend there who has one and make a picture of them. Go back the next week, and the next, and make other pictures. Take the birds some food each time and they will learn to know you and welcome you. They will pose for you any way you want them to, and in a little while you will have a lot of beautiful pictures to put in your album.

The golden-winged woodpecker, or flicker, or whatever you may call it—it has a dozen different names—is another industrious bug-eater, but there are men all over the country who want to kill them, too. They say they are good eating and good sport. Yet each of these birds eats seventy to seventy-five thousand insects each summer, and each pair feeds their babies like ten to twenty thousand insects in three or four weeks.

The blue jay is another good bug hunter and a real ornament to shade trees about the house and in the forest. He is a cheerful neighbor, and while not much of a songster, he does the best he can in that line.

The prowling house cat is a serious menace to the bird world. I have the highest respect for the good-natured, domestic old Thomas or Maria who stay at home and attend to their duties; but I have no use for the other kind that goes hunting in the fields and forests, kill all the birds they can find and eat them; and these prowlers should be put out of business wherever found.

The time was, and only a few years ago, when every man and every boy when he saw a chipmunk, or a woodchuck, or a rabbit, or a gray squirrel, wanted to either get a gun and kill it or to shy a rock at it; but that has changed. There are a lot of people today who are feeding those little things, inviting them to come and live around their home; and they do it. An old man chopping wood near a village made the acquaintance of several chipmunks, and they soon learned to come every day and help him eat his lunch. He would always share it with them and he found a great deal more fun in it, he said, than he would have had in killing them.

You have all heard and read many times the story of the slaughter of the beautiful white herons and egrets in the southern states and in South America for their plumes, so I need not take your time to tell it here; but it is one of the great crimes of the nineteenth and twentieth centuries that those beautiful birds which could be found in millions all over our southern states a few years ago have been practically exterminated.

I said something to you about the prairie chicken. You don't have it here, perhaps, but in the northern part of your State where there are vast prairies. That bird, when I first commenced to travel through this State, thirty years ago, could be seen in thousands from the trains; but not so today. Still, if you would make a law absolutely stopping all killing of them and of all other birds, prohibiting men from taking guns in the fields or forests at any time for five years, and then send away and get a few pairs of prairie chickens and put them out here, you would soon have hundreds of them on every farm and they would be eating up your grasshoppers.

Here (showing a picture) is another bird that is a menace to the good birds of the country, the crow. He is one of the serious problems in protecting our good birds. We cannot legislate too much against him. So long as men are allowed to shoot I wish you would induce them to devote their time to the crow and the English sparrow, the red squirrel and the prowling cat.

A few years ago the gull was hunted for millinery purposes, just as other birds were. Gull wings and whole gull skins were very popular for trimming women's hats, and the state game warden of North Carolina told me that to his certain knowledge more than fifteen thousand small gulls were killed on Currituck Sound in one winter and the skins shipped to milliners in the north.

We are trying to get all states that have gray squirrels to make laws to protect them at all times, to take them out of the list of game animals and put them in the list of protected birds. The gray squirrel is too scarce now, too beautiful and too valuable to be killed for fun. When cultivated and taken care of they become very tame. In fact, they take more readily to the friendly advances of human beings than any other wild animal.

The skunk is another pirate. He hunts birds, eggs and young birds all night and eats all he can find. So whenever you are out hunting and can find one of these put him out of business. Fortunately, his skin is valuable and the trappers have sport hunting him.

There are three species of deer in this country—the Virginia deer in the east and middle west, and so called because it was first found and described in Virginia three or four hundred years ago. It ranges west to the Rocky Mountains. There it mixes with another species known as the mule deer, the one shown in this picture, so named on account of its large ears. It ranges all through the Rocky Mountain country and west to the summit of the Cascade ranges. There it is replaced by the third species, the black-tailed deer, in Wyoming and Montana and Colorado—the people call this (indicating picture) the black-tailed deer, but that is a misnomer. This is not the black-tailed deer at all. This deer's tail is white, except that it has a few black hairs on the end, while the black-tailed deer has a black tail from start to finish. So when you hear a Colorado man, or a Montanian, or a Wyoming man talking about a black-tailed deer you may know he means a mule deer.

The young of all species of deer are spotted at birth, and they wear their spots until six or eight months old. Then the spots disappear and the fawns take on the color of the adult animal. The fawns are easily tamed and they make delightful playmates for the little folks. Unfortunately, when the male deer grows up he is likely to become vicious and has to be put away.

You have all heard of the abundance of wild animals in the Yellowstone National Park and how easy it is to go in there and photograph them, but this (indicating picture of a bear) is not one of those animals. This old chap lived and does yet, so far as we know, in the Sawtooth mountains, some three or four hundred miles south of the park. A man killed a deer in the edge of this little opening, cut off the hind quarters and took them into camp for food and left the forequarters out there for bear bait. The next morning early he went out and set up the camera by the remains of the deer, stuck down some brush around it to conceal himself, laid down and read a book nearly all day, hoping a bear might smell the fresh meat and come to it. Along toward sundown he was rewarded for his patience by hearing a suspicious noise away back in the woods. Soon he saw a bear advancing toward the open. It came very cautiously, but it had smelled the fresh meat and wanted some of it. Finally it came within thirty feet of the camera. It entered that magic circle on which the lens was focused. The man pressed the bulb; the bear heard the click of the shuttle, turned and went back into the woods; but the man tells me he would not give that negative for the skins of any dozen bears that he might have killed and spread out on his floors at home.

You have all heard and read many times the story of the passing of the buffalo, and I need not take much of your time to repeat it. You have perhaps read of places where the slaughter had been so great that a man could have walked a mile and stepped on buffalo bones at every step. You may have thought this an exaggeration, but here is a picture of a slaughter yard which covered several square miles, where a man could have walked five miles and stepped on buffalo bones all the way. This tragic slaughter was made possible by sending out parties of mounted hunters every morning to round up bunches of buffalo and drive them into this valley, in order that the killing might be done near the camps.

In 1873 a party of Flathead Indians, who live in the Flathead valley of Northern Central Montana, came over into the eastern part of that territory to hunt buffalo, as had been their custom for perhaps hundreds of years. They found this time, as in previous years, the usual vast herds of buffalo. The plains were black with them as far as the eye could see, but the Indians found this time, for the first time in their lives, hundreds of white men hunting these great beasts. A railway had just been built into the buffalo country, and an army of butchers had gone out there to kill off these magnificent creatures for their skins. The Indians saw the puffs of smoke raising from behind bunches of sagebrush in every direction. They saw the great beasts staggering about and falling. They saw the red-handed butchers following up the gunners, skinning the dead animals and packing the skins for shipment to the east, where they were sold for $1.50 each. And this is the story in brief of the passing of the buffalo.

That night around the camp fire the old chief in charge of the Indian hunting party said to his young men: "These white men are going to kill off these buffaloes, and if we want any of them for our children or our grandchildren to even look at, we must take them home and raise them in our own country." The young men could scarcely believe this prediction. They did not think all the white men in the world could ever kill off all those millions of buffaloes; but the counsel of the old chief prevailed, and when the hunt had ended and the Indians had loaded their hundred or more ponies with dried meat and were ready to go home a party of young men went out and roped three little calves. These were carried over the mountains on the ponies. In their own country the Indians had some domestic cows that they had bought from the white men. They taught the calves to nurse them. The little fellows grew rapidly. In three years they were big, husky brutes and began to increase in number. You remember it was in '73 that the Indians took the calves over there. I was in that Flathead valley in '82, nine years later, and I found there this magnificent herd of 35 head of buffaloes (indicating), all sprung from that humble beginning, from those three little calves that were carried over the main range of the Rockies on the hurricane decks of the Indian cayuses. And that herd kept on growing until in 1907 those Indians sold and delivered to the Canadian Government 600 head of buffaloes; and there are over 100 head still running wild in that Flathead valley.

I wish I had time to tell you all about the making of this picture. But it is too long a story. The animals were as wild as any herd ever was on their native plains, and it took me five hours of careful, patient stalking to get within 50 yards of them, at which distance the picture was made.

This is simply another of the many object lessons that have been given to the world as to what may be done with a small remnant of wild life if you will only take care of it.

Since the buffalo is wiped off the map as a game animal, the moose is considered by most hunters as the greatest prize left for them; and many hunters go every year to Maine, or to Canada, or to Alaska, to hunt moose.

The moose is a great, magnificent, stately creature, but he is absolutely stupid. He has not the same keen sense of self-preservation many of our other wild animals have. A good hunter can stalk a moose to within 50 yards on his feeding ground and shoot him down as easily as he could shoot a cow out here in a pasture field. The native guides in the moose country frequently call with a birch bark horn, and the moose in answering the call blunders up to within 25 yards of the concealed hunter and his guide. At that distance he looks almost as big as a load of hay, and all the hunter has to do is to point the rifle in his direction and pull the trigger. That is not the way the hunters put up the story when they come back; but it is the truth all the same. I have been there and I know.

The young moose is easily tamed, as well as the fawns of the other members of the deer family, and is frequently broken to drive in harness.

A man in Roseau, Minn., had one when I was up there years ago that he would frequently hitch up and drive to Pembina, 52 miles from there, have him fed in the livery stable, transact his business, then hook up the moose and drive home, a distance of 104 miles for the round trip, and the moose would come in on his long, swinging trot almost as gay and chipper as he was in the morning when he started out. So if any of you people are thinking of buying a driving horse or an automobile, I advise you to get a moose instead. He is a much better roadster and much cheaper to board.

Two boy friends of mine were photographing birds and their nests some years ago on the Flattop mountains of Colorado. I don't know why they call them the Flattop unless it is because they are not flat on top. It is a very rough country. The boys were about a hundred yards apart at one time in the morning and one of them had gone into a clump of bushes to look for the nest of a certain bird which he had seen about there. He heard his friend whistle and knew this meant something, so he slipped out to the edge of his cover just as these two great rams came along. They walked within thirty feet of him. He pressed the bulb and got this beautiful picture. The game went on down the trail and never knew they had been near a human being, and the boy tells me he would not give this picture for the heads of any dozen rams he might have killed and hung up on his walls at home.

DOGS AND A SUGGESTION.

(Hon. Harry B. Hawes, St. Louis.)

Harry B. Hawes.

Fellow farmers, I practice law to support a farm; some here may conduct a farm to support a lawyer.

There is an old Irish adage, "When all fruits fail welcome haws." I attribute my invitation to speak to a partial failure in the fall crop of orators.

Together with a living every man is entitled to at least one hobby.

An old-fashioned lady told me her hubby was her hobby, but times have changed; the new woman most frequently has hobby for hubby, not hubby for hobby.

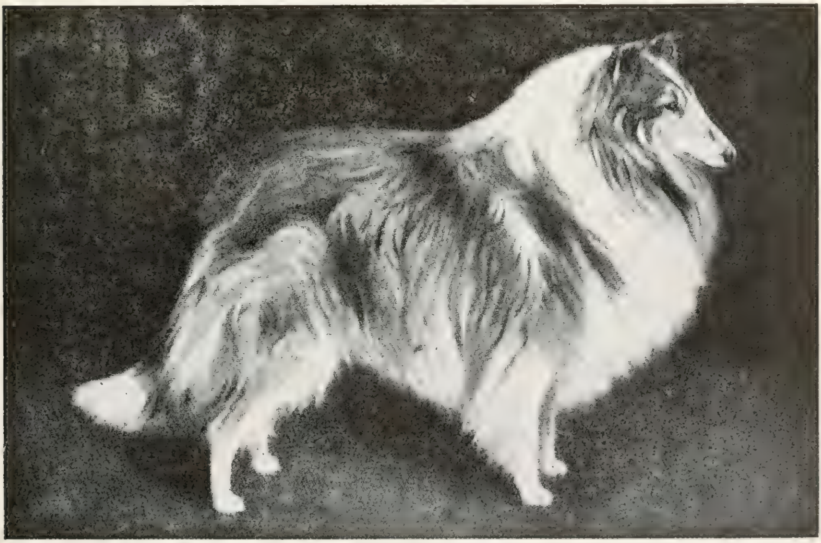
My hobby came to me in my eighth year in the person of a terrier dog, part Skye, part Scotch, but all dog. A fussy, fuzzy fellow who, contrary to rules, slept under my bed, fought his way to school with me each day, took a keen interest in marbles, played ball Saturday afternoons, swam the river, a companion in all youthful adventures, a confidential friend, shared all my joys and gave sympathy for my sorrows. Drawing a homemade wagon in summer he was harnessed to a sled in winter.

A considerate, courteous, chivalrous gentleman who died like a soldier on the field of battle. Locked in a death struggle with a larger dog he was about to gain new laurels for his proud friend when crushed by the wheels of a fire engine. We gave him a christian burial, and for many years the little mound which held poor Toby's remains was visited by devoted friends, who, appreciating his sterling worth, kept green his memory.

This was thirty-six years ago, and each year since has found me either the part or whole owner of at least one dog and at times as many as thirty. Some were presents, some five-dollar dogs and others cost more than a blue-ribbon gaited saddle horse.

There are more different breeds of dogs than of horses, cattle, sheep or poultry. He is the oldest domesticated animal, and assisted his master to procure food and defend against his enemy before horses, cattle and poultry came under control. His story runs back to prehistoric times. He was used as a sacrifice upon the altar of pagan gods. His place in history, art, fiction and poetry ranks second only to man. Next to man he ranks highest in intelligence, being susceptible to all human passions, hatred, love, fear, hope, joy, distress, courage, timidity and jealousy. Man requires service from all animals, but only from this one receives friendship. He is the only animal that eats all of man's food—fish, flesh and vegetables.

Man is taught chivalry; the dog has it naturally. He never attacks the female of his species, even when feeding. He is the delight of the poor man's hovel and the rich man's mansion. Faithfully follows his master who tramps the dusty roadside, and sits proudly upon the cushioned seat of the millionaire's de luxe machine. Wealth, caste, social distinction are all one to him; he is content and useful in every station to which assigned by fate. But he knows the just from the unjust, the kind from the unkind, the charitable from the uncharitable, the true from the false, the man from the hypocrite. Disguise does not deceive him; paint, tinsel, silk and jewels are no more to him than tatters, rags, worn shoes or ragged hat, but it is what these things cover, the man, who wins his affection or dislike. His master's friends are his friends; his master's enemies are his enemies, no matter what their station. He does not count the cost, but gives his life at his master's command



A good dog for the farmer.

and, even without command, in his master's defense. When master is gay he is merry; when sad he grieves and understands his moods, as does his master's wife. The destruction of an army, the fate of a nation, has been decided by a dog's bark.

With teeth bared, eyes ablaze and hair a-bristle he has saved a wife and child from assault and then played nurse all day.

With devoted strength he has rescued his master from a watery grave and dragged a child from an angry fire.

Over bleak and frozen mountains he has carried food and drink and brought assistance to the wounded and those in dire distress.

Peary could not have reached the North Pole nor Scott the South Pole without the faithful dog.

He has taken the place of the horse and the ox, his skin has been used for shelter and for clothes, his flesh as food, his eyes have found the things his master sought, his nose has bared the trail his master could not find.

And in return he asks but a little consideration and a few kind words.

> "Never yet the dog our country fed,
> Betrayed the kindness or forgot the bread."

As friend, companion and confidant, I like him best. His manifold uses need little discussion. One small dog in a home has more terror for the burglar than an armed man outside; in the yard he sounds the warning and the night prowler sneaks away.

In hunting he is almost indispensable. An American, Paul Rainey, recently surprised the sporting world by hunting the lion in Africa with dogs raised and trained in Louisiana. When properly trained he can handle cattle, sheep and swine better than a man. He excels as a ratter and destroyer of mink and other vermin.

All have seen the blind man's dog, cup in mouth and attached to a string, leading his sightless master.

Before the days of cooking stoves each household had its open chimney and "turnspit" worked by a dog, and even today the dog on a treadmill churns the butter.

The expressman and peddler, in delivering their packages and wares, usually leave a four-footed guardian in charge.

Troupes of performing dogs delight the audiences in our vaudeville houses and demonstrate what they can do when skillfully trained.

Hagenbeck has a lion tamer who always enters the lion's cage accompanied by two magnificent Great Danes. He informed me the dogs are not there for exhibition purposes, but for the protection of the keeper. At the first attempt of the lion at attack their duty is to attack him. Twice they have saved the trainer's life.

Many fire departments have their mascot, who attends all fires and in idle hours entertains the company.

* * *

Time will not permit of a more extended discussion of these enjoyable trials, in which the dog of the poor man contests with the dog of the rich and the happy owner of the winner is more elated than by any other sporting event.

Housing, feeding and training can not be satisfactorily discussed in my allotted time. A few things, easily remembered, will add to our friend's contentment and his master's satisfaction.

The kennel should be dry, clean and frequently whitewashed.

Scraps from the table, when fresh, are the best food and cost nothing.

Feed the dog yourself; you will control him better.

Feed twice a day, morning and evening—the big meal at night, as the dog should not be worked immediately after eating.

Do not feed chicken bones; they are covered with a hard substance which frequently cuts through the intestines.

Use a leather collar, not one made of metal. Don't chain unless necessary.

If the dog sucks eggs, open one end of an egg and put in some red pepper.

The master is responsible for a vicious dog; if it is vicious it is largely his fault.

Properly introduced to the cat, there will be no "cat and dog time."

If he jumps upon you in caress gently press your shoe upon a hind foot. Do this a number of times and he will stay on the ground.

The pup will imitate an old dog; but don't try and train two young dogs at the same time; give each a private lesson.

Put your own name and address on the collar—not the dog's.

Don't kick your dog or strike him on the head. Use a switch or, grasping him by the neck and back, give him a shaking.

Don't "holler" at a dog unless he is at a distance; talk to him in a moderate tone. He is guided more by intonation than words. You exhaust your emphasis in continuous "hollering" and he fails to understand.

Don't let your dog chase horses or autos on the road; it is a very bad habit.

Don't use more than three letters in your dog's name; if you want to use a longer one for his pedigree give him a short kennel name.

Don't borrow a dog and don't lend one; you may spoil your friend's dog or he yours; a dog must know his own master.

Don't punish a dog long after his fault has been committed; be sure he knows exactly for what the punishment is administered.

Don't keep a dog in a hot room all day and put him out in the cold at night.

Try and keep a breed that will not require to have their ears or tails trimmed. This is a custom which is properly growing in disrepute.

Take your dog into the chicken yard when young and let him stay by your side while you work with the chickens. He will then learn to know that they are your property and respect them. If he is old when you get him and he kills a chicken try a thrashing; if that fails, tie the dead chicken around his neck and let him carry it all day. He will soon get enough chicken and will leave them alone. This is a favorite method of "bird dog men" in breaking a pointer or setter from chasing rabbits.

I have also thought it would be a wholesome method of punishment for the chicken thief if one of our ebony-hued friends should have an old dominecker rooster tied around his neck and be compelled to parade around town all day. He, too, would become sick of chickens.

Let us try and devise a practical plan for the utilization of at least one useful breed of dogs by the State.

Each breed has its especial advocate and each its particular use. For the farm, however, it is my judgment that the rough-coated Scotch collie is the best general utility dog, besides being beautiful and companionable. The word "collie" is simply the old Highland term for "sheep dog." These dogs have been used for centuries in handling all kinds of domestic animals. They are serviceable as companions, watchdogs, and have an all-around general utility. They are adaptable, loyal and easily trained to perform all sorts of service.

The tests to which they are put in sheep-dog trials are most severe. A long course is marked out by flags, and the dog is compelled to conduct three strange sheep over the course, which is interrupted by hurdles, and deliver the sheep into a pen. These dogs are directed only by the voice and signals made by the hands and arms, and are unaccompanied by the owner, who must remain at a distance.

Some years ago I ascertained that there were 22,000 dog licenses issued in St. Louis alone. It is safe to say that not one-third of the dogs in the city are licensed. If I am even approximately correct, there are at least 50,000 dogs in St. Louis and probably as many as 250,000 in the State.

Missouri spends money each year in bettering the breeds of cattle, horses, swine and poultry. Why not spend a small sum on the dog? Or if the State will not do this, why can it not be done by subscription?

The average collie litter contains from six to eight pups. In nine weeks a pup is born. In sixty days more he will be ready to send to his new home. This will require only five months from the date of breeding to the date of delivery. Thirty brood bitches and five stud dogs could be bought for a comparatively small sum and in many cases donated for the experiment; these would in a year's time supply one or two good collies for each county in the State.

The annual maintenance of a State kennel in Columbia will not be large.

I may be overestimating the value of this plan, but I believe it to be practical, useful and will add much to our State's reputation for progressiveness.

Senator George Vest illumined this subject in an address to a jury. Time and changed political issues may cause us to forget his great speeches, but this classic will always be preserved:

"Gentlemen of the Jury: The best friend a man has in this world may turn against him and become his enemy. His son or daughter that he has reared with loving care may prove ungrateful. Those who are nearest and dearest to us, those whom we trust with our happiness and our good name, may become traitors to their faith. The money that a man has he may lose. It flies away from him, perhaps when he needs it most. A man's reputation may be sacrificed in a moment of ill-considered action. The people who are prone to fall on their knees to do us honor when success is with us may be the first to throw the stone of malice when failure settles its cloud upon our heads. The one absolute, unselfish friend that man can have in this selfish world, the one that never deserts him, the one that never proves ungrateful or treacherous, is his dog. Gentlemen of the jury, a man's dog stands by him in prosperity and in poverty, in health and in sickness. He will sleep on the cold ground, where the wintry winds blow and the snow drives fiercely, if only he can be near his master's side. He will kiss the hand that has no food to offer, he will lick the wounds and sores that come in encounter with the roughness of the world. He guards the sleep of his pauper master as if he were a prince. When all other friends desert he remains. When riches take wings and reputation falls to pieces he is as constant in his love as the sun in its journey through the heavens. If fortune drives the master forth an outcast in the world, friendless and homeless, the faithful dog asks no higher privilege than that of accompanying him to guard against danger, to fight against his enemies, and when the last scene of all comes, and death takes the master in its embrace and his body is laid away in the cold ground, no matter if all other friends pursue their way, there by his graveside will the noble dog be found, his head between his paws, his eyes sad but open in alert watchfulness, faithful and true even to death."

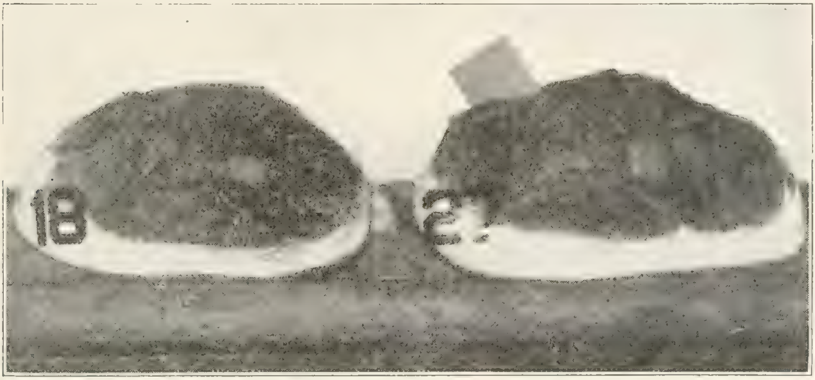
FARMERS' HAM AND BACON SHOW.

(W. L. Nelson.)

For best home-cured country ham—First premium, $25, W. H. Thomson, Columbia; second premium, $15, J. E. Ballenger, Columbia; third premium, $10, H. G. Windsor, Boonville.

For best home-cured country bacon—First premium, $25, James Bachler, Fredericktown; second premium, $15, Walter J. Bachler, Fredericktown; third premium, $10, A. J. Caldwell, Columbia.

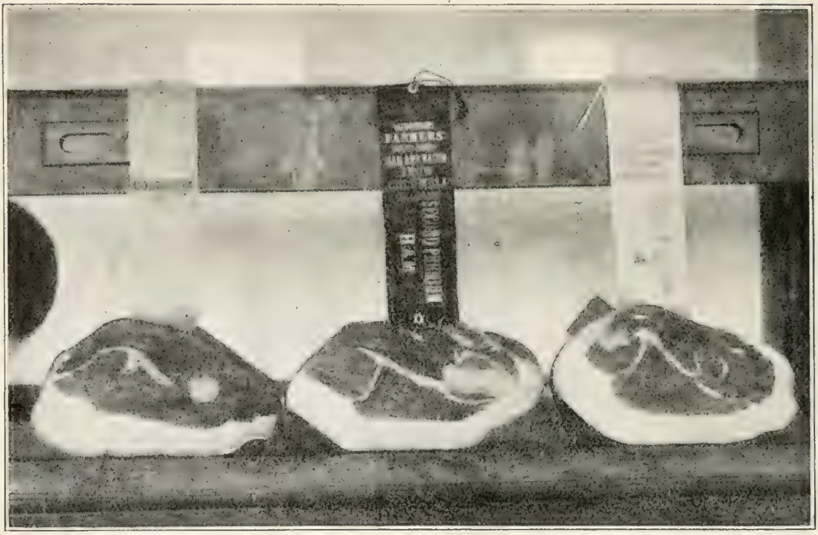
The second annual Missouri Farmers' Ham and Bacon Show held in connection with the 1914 Farmer's Week, and put on by the State Board of Agriculture, was another success. Owing to the scarcity of meat throughout the State, this second show, while larger than the first, did not bring out as many entries as would have resulted under more favorable conditions. However, there were twenty-five hams and eleven entries of bacon. Not only was the show larger than for the first year, but the quality of the meat was very much better. The improvement in trim and general appearance of hams was especially noticeable where the exhibitors had made entries in the first show. This feature is expected to prove one of the best of the lessons that are to be learned. The scarcity of meat throughout the State was due in part to the shortage of hogs caused by unusual losses from cholera, and also to the fact that November and December were too warm for home butchering. This caused many farmers to use meat which otherwise would have been entered in the show.



Hams of excellent marbling and proper proportion of fat to lean, but No. 18 was not thoroughly cured.

The judges in this second show were W. C. Hutchison, Jamesport, Mo., former President of the State Board of Agriculture, and who has a state-wide reputation for the quality of his home-cured hams; T. B. Ingwersen, Bowling Green, Mo., whose Walhalla farm meat products from some one hundred or more hogs butchered annually are the equal of the best; Mrs. Wallace Estill, Estill, Mo., who has built up an extensive trade in country-cured hams and who makes sales to leading hotels in St. Louis and Kansas City, as well as shipping as far east as Boston. In the management of the show Dr. P. F. Trowbridge of the Missouri College of Agriculture rendered valuable assistance. The report of the committee on awards is as follows:

"We, the committee chosen to make the awards at the second annual Missouri Farmers' Ham and Bacon Show,

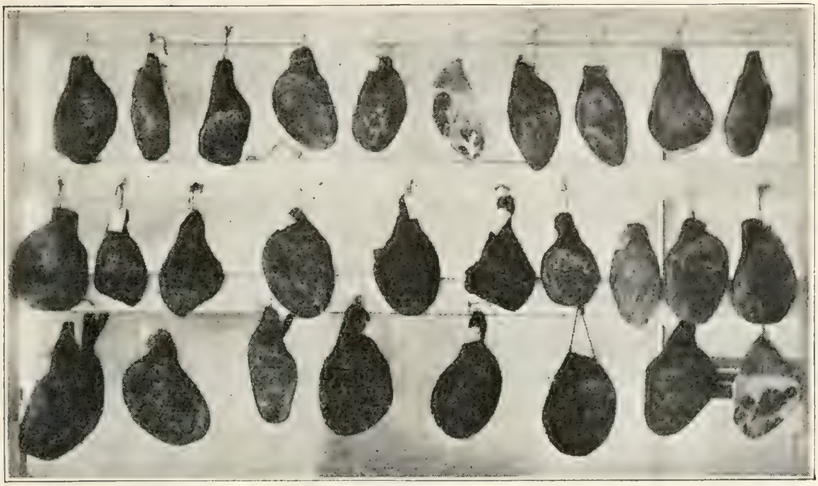


First, second and third prize hams.

held in Columbia, Mo., under the auspices of the Missouri State Board of Agriculture during Farmers' Week, January 12-16, 1914, beg leave to report as follows:

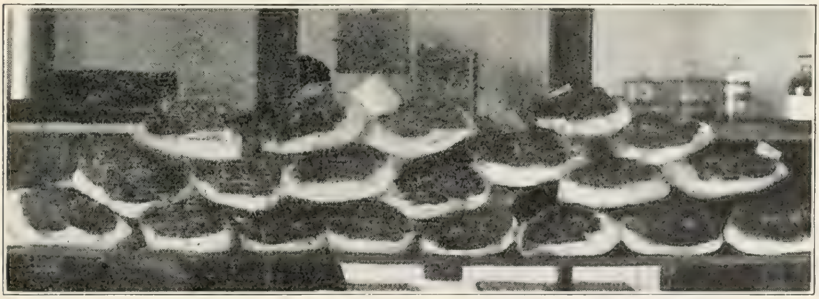
"After carefully inquiring into the merits of the various entries, making careful examination of same following the cutting of the meat, and, in some instances, the cooking of parts, and passing upon these entries as to shape, size, flavor, texture, taste, odor and general desirability to meet the demands of the purchasing public, we made the awards as follows: On hams, No. 5 was awarded first place and the premium of $25; No. 4, second place, $15; No. 22, third place, $10. After the awards had been made and the decisions finally reached reference was made to the books, when it was ascertained that ham No. 5 was owned by W. H. Thomson, R. F. D. 10, Columbia; No. 4 by J. E. Ballenger, R. F. D. 4, Columbia, and No. 22 by H. G. Windsor, Boonville.

"It was a very difficult task to judge the many excellent hams exhibited at the show. Many were so nearly alike in flavor that it was almost impossible to detect a difference. In order to decide we had to reject many excellent hams, some on account of being improperly trimmed, some on account of being too fat, others for not being cured enough. We especially desire to commend ham No. 18, entered by James Bachler, Fredericktown, for the amount of good meat, good color, nice trimming



General view of ham section of the show. Fourth and fifth hams, bottom row, are almost ideal in shape.

and good taste. This ham would have been awarded a premium had it been more thoroughly cured. Ham No. 5, awarded first premium, was excellent in flavor, but had hardly been smoked enough, and the trimming was not just correct. Ham No. 4, awarded second premium, also lacked somewhat in amount of smoke. Ham No. 22, while a very excellent piece of meat, was somewhat lacking in flavor.



Some of the hams after the meat had been cut for inspection of judges.

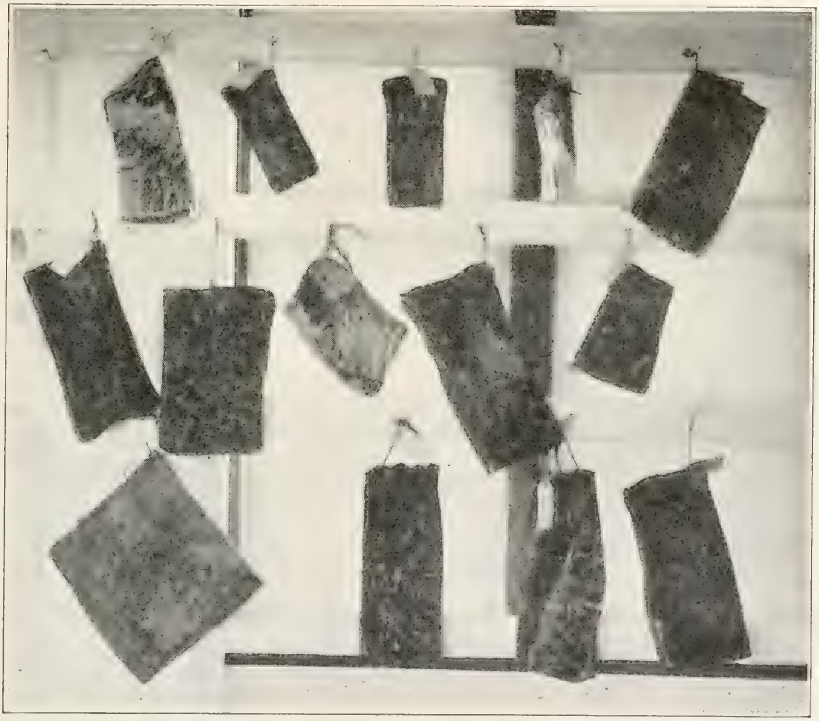
"The bacon entries were very much lacking in quality as compared with the hams. The show thoroughly demonstrated the fact that the average farmer knows a great deal more about making good hams than he does about making good bacon. Considerable education along this line is needed. After passing upon the bacon entered awards were made as follows: Entry No. 9, first, $25; entry No. 8, second, $15; entry No. 7, third,

$10. On examining the books, the same as after the awards had been placed on the hams, we found that the prize bacon was owned by the following parties: No. 9, James Bachler, Fredericktown; No. 8, Walter J. Bachler, Fredericktown; No. 7, A. J. Caldwell, Columbia. Practically all of the bacon entered in the show was too salty, and much of it was not in reality bacon at all, but salt pork.

First, second and third prize bacon.

"We commend the Missouri State Board of Agriculture for having last year inaugurated the first show of the kind ever held in this country under State auspices. There is great need for such a show and for further educating the farmer along these lines. We recommend unqualifiedly that this show be continued from year to year, and urge upon the farmers of the State to take advantage, not only of the chance to win premiums, but to learn more of the principles of meat making such as were brought out in this show. It is our belief that it would be well to have two classifications for hams—one for what is commonly known as old hams, cured the previous year; the other for hams more recently cured. We believe that in another year there should be additional classifications, including shoulders and country sausage, and that similar awards, or awards in keeping with the judgment of the Board, should be offered."

Missouri is the first State in the Union to take up in such a practical way the matter of increasing the interest of the farmer in the home curing of meat. The State Board of Agriculture has issued three bulletins on this subject, and has held its second ham and bacon show. Several other states are following Missouri's lead, and some of these have conducted shows patterned after that put on by Missouri during the winters of 1913 and 1914. It is hoped and believed that the Missouri show may be one of the permanent and valuable features of Farmers' Week.



Section of the bacon show. From reader's left to right, second and third pieces in top row, first and fourth in middle row, and second, third and fourth in bottom row are good shapes. Sides should be split, not left large as was first piece in bottom row.

Missouri Country Life Conference.

OFFICERS.

President—Paul Culver, Gower.
Vice-President—H. E. Books, Fulton.
Secretary—W. L. Nelson, Columbia.
Treasurer—M. F. Miller, Columbia.

REPORT OF SECRETARY.

(R. H. Emberson, University of Missouri, Columbia.)

R. H. Emberson.

During Farmers' Week, 1913, the Missouri Country Life Conference was organized. The expenses of this conference and also those of the 1914 meeting were met by the State Board of Agriculture. At the first conference no roll of paid-up members was started, but the interest was such as to justify making this organization a permanent one. During the first conference the sessions were held in the Young Men's Christian Association building. The second conference was held in the main auditorium of the University. The attendance was the largest of all the Farmers' Week meetings. Meetings were held in the afternoons of January 13th, 14th, 15th and 16th. A strong feature of this conference was the participation in the meeting by men and women who are actually accomplishing things worth while in country life improvement. Never before had so many Missourians, all working along these lines, been brought together. The conference was also fortunate in having distinguished men and women from outside the State to give strength to the program.

The second annual Missouri Country Life Conference was held in Columbia during Farmers' Week, January 13-16, 1914. The sessions were held in the main auditorium of the University in the afternoons of the dates mentioned.

The program consisted of addresses, papers and discussions on the country church, country schools, rural economics, rural sociology and rural organizations. The names of those who took part in the program which appear in this bulletin give evidence to the high order of the topics that were considered.

It is doubtful if there has ever been a series of meetings held in Missouri at which more questions pertaining to present-day problems were discussed. There was a good attendance at each session. The interest manifested by the audience showed that people came to these meetings not through idle curiosity or to be entertained, but to listen to the consideration given to these live, fundamental questions.

The enrollment of active members reached one hundred and one. This number will be increased when the people begin to realize the aim of the organization. Officers were elected as indicated above. The Missouri Country Life Conference as an organization is capable of doing great good for the rural communities of this State.

THE FARMER'S WIFE, SON AND DAUGHTER.

(Dr. W. H. Black, president Missouri Valley College, Marshall, Mo.)

Dr. W. H. Black.

When I was asked by Professor Emberson, my good friend of long standing, to come over here and talk at this meeting, and particularly with reference to matters that were interesting the mind and the heart of people who are concerned for the betterment of conditions not only, but with reference to the spiritual, social and intellectual interests of the people in the country, I was glad to accept. I have been with Brother Watson in his meeting over at Laddonia, and Professor Emberson was there and we had a good time together, and to meet these men again at such a conference is a delight.

Men and women, we have come to a very important period in the history of rural people. The interests that we have together are vast and the problems tremendous. There are city problems, the problems of business and of church, and problems of temperance and of the slums; and we have in the country problems equally as great and significant. They do not concern, in the smallest view of it, as many people, but they concern the people who are there just as vitally, and the interests to be served are as far-reaching in their importance as any that can engage a body of men and women in the great centers of population. We must get busy to think about these important interests.

Now this afternoon I thought I would talk on the same subject that I spoke on over there at Laddonia, and I don't know any other way to present the things that I want to say in connection with a meeting of this sort than to say them just under four heads—the farmer, the farmers' wife, the farmer's son and the farmer's daughter.

The first of these—the farmer: The things that I wanted to suggest are not things that immediately concern the raising of crops, the raising of stock and the managing of orchards and the selection of seed, and things like that—you can get that in other departments and from men and women who are specialists in the subjects discussed—but there is something that I feel with reference to the farmer as a man that I want to lay on your hearts. Now, of course, it is well for him to look to his health and the harvesting and the right use and distribution of his strength, and therefore that he should keep things in proper condition for making himself healthy, but I want you to think about the keeping of his mind active, too, and some of the things that make the challenge to the farmer with reference to the great things that may be done. Just to plump right into the subject, one of the greatest undone things in the interest of rural communities is the proper organization and solidarity of the people with reference to the things that they grow and wish to dispose of.

When a farmer goes to market he asks one man what is the price of wheat and corn and oats, and another man what is the price of hogs and cattle and sheep, and another man what is the price of eggs and butter and chickens; and if he goes to the manufacturer, the producer of other things, he will ask the same sort of a question: What is the price of the thing they produce? What is the price of your iron? What is the price of your lumber? What is the price of the things that you have to dispose of? He does not fix the price on the things that he makes; the other fixes it both ways.

Judge Wallace told me last night as we came along on the train that there is a certain class of producers in this State who make their produce for one dollar and a half a barrel and sell it for seven. Now, how many farmers make that much profit on the things they raise? How many of you are able to fix the price yourself on what you want to sell?

One of the great opportunities for the farmers of this country is to so get together that a great administrative office handling the rural productions of this country shall be under their own control. Why, the brains at the head of the great concerns in St. Louis and Kansas City, in Chicago, in New York and in Philadelphia, and all over your country, have in their beginning come off the farms, and therefore the farms have on them the men that have the brains as well as the brawn to carry on great enterprises, and they should not have to go off into the city in order to find an opportunity to organize a great concern and a great movement when there is such a tremendous need right among the farmers themselves for organizing in order that they may have something to say with reference to the prices that are set on products that come from their fields. That to me is one of the most splendid opportunities presented before the rising generation of this time. We are having difficulty in getting together. It seems that the people who live in the country are more difficult to aggregate and solidify and bring into one; but nevertheless, it must be done. It must be done so that you won't have to look to somebody else and ask what he will give you for wheat and what he will give you for sheep and what he will give you for hogs. The control of the products requires at the head a man who is able to handle a great organization, because this must be widely distributed—a vast organization of strong people. Therefore, there is an opportunity. We have our societies scattered abroad (some of them meeting here), but we are not getting together with reference to the one great concern—looking after ourselves and our interests as the other great industries look after themselves and their interests.

Now that is why I am calling attention to the importance of the farmer's brain. There is one more thing that I will insist upon in this connection, and it is this: It is just the importance which is to be attached to the farmer's heart. When many a farmer wants his children to have the advantage of a better school he moves into town, and it is pathetic what he goes through in getting into town. I will tell you as an educator, it is one of the pathetic things to see the way the farmer behaves after he gets into town. He is in a state of daily unrest; he doesn't have the environment that is congenial to him, and if he has his farm near enough he goes back and forth and is at a great disadvantage. But then there is another thing. He is not prepared by the life that he has been living for the environment into which he has come, and therefore oftentimes he is the unhappiest man in the community. Longs for the day when he can get back to the farm, and if that does not happen he just simply settles down into a state described by our late friend, Grover Cleveland, as a state of "innocuous desuetude," and that is about as bad a condition as he can get into. I don't know just exactly what Grover meant by it, but I know it must be a bad state, because the phrase has fixed itself in our minds and we are all living in dread of it.

The farmers' heart: The country is full of churches. The mission of these churches is with reference to the heart of this man and his wife and his son and his daughter. These churches in all of our denominations are getting weaker and weaker. There are several reasons for that. One of the reasons is that because of the facilities of transportation and the circulation of literature and the various opportunities of self-culture that come from the growth of our educational system, and things like that, the taste has risen, and therefore the rural community is not satisfied with what once satisfied it, and it does not seem able or willing to provide for a better condition of things. Hence, the country churches are emptying and the windows are being knocked out of them and the doors broken off their hinges, and things are going to rack and ruin. There needs to be a gathering together of the people in a more compact community and the elimination of the old sectarian spirit from the community in order that they may be able to get together in the worship of God and in growth in grace and in wisdom.

Now that was a nice little thing that Professor Emberson said with reference to conditions up there at Alma—the getting together of those four churches and forming one church and having a young man preaching to them. They are now going on splendidly. Why, they did business together before that, and they went to weddings together, and went to funerals together, and intermingled right straight along, the Methodist, the Presbyterian and the Baptist. Why, I never heard of a young fellow falling in love with a girl because she was a Presbyterian.

He fell in love with the girl! And that sort of spirit ought to characterize us, too, in our own religion, beloved. It is the love of God that ought to be the fundamental motive in bringing us together in His house for the purpose of public worship, and the lines that distinguish us by name when we get into the house, whether the name be Emberson or Watson or whatsoever, does not count at all, and we remember only that we are children of God. The denominational name does not mean any more. There we belong to Him and we are His, and therefore the importance of the farmer's heart, of his putting in these problems of the country community his heart—the love of his brethren and the love of his God in practical operation, so that he and his neighbors may federate and bring together their religious interests into an organization that will make it worth while and effective and bring to them a preacher that will be really a servant of the community. Hon. Matt Hall said to me not long ago: "What are we country people going to do? We all want good preaching, and it is very difficult for us to have it the way things are organized in our country communities. We have a little group here at Smith's chapel, and have another little group over at Mt. Olive, and have another little group over here and another little group over there, and none of us are able to hold a man for more than one Sunday a month. What are we going to do? Our children are being neglected." Even so.

Last Sunday I was going along the street in Blue Springs, Mo. Mr. Montgomery said, "We have got too many churches in this town. I wish we could eliminate some of the churches and all get together. We are able to support a good preacher in this town and we all want good preaching."

The farmer's heart must get into action; his brain is being stirred with reference to the problems of his community and the interest of the people around about him and in his own home, and now he needs to have his heart stirred into just as definite and enthusiastic action.

Well, I want to talk a little about his wife. A few years ago Dr. Jesse started me on an investigation because he had asked me to prepare a paper for a state teachers' association. I made the investigation, and here is one of the pathetic things that I found: That in proportion to the population there are more farmers' wives in the State institutions for insane than any other class of women. In further investigation of that point I found it was just the monotony and grind of the life of the farmer's wife that was responsible for that sort of thing. To me that was a very pathetic thing—that there should be a type of our best citizens in whose lives there was such monotony that in the end it began to prey on the centers of reason and, in many cases, dethroned it.

Now I am thankful for progress; for a little improvement in the matter of roads so that the women can get about a little more. They don't begin to see in the community where they live what their husbands see. And therefore I am glad that there is a little taste being formed with reference to better roads in order that she can get abroad a little easier. Then I am glad for the rural free delivery of mail, which is a godsend, and as much to the women as to the men. I tell you, too, I am profoundly grateful for the telephone. It just did me good to be out in the country last Sunday morning and see a lady sit down after breakfast at the telephone and ring up a sister somewhere—I don't know where it was, "seven hundred six" she called for—and she had a good social chat over the telephone with her neighbor. My, what a break in the monotony of that woman's life on the farm it is to be able to thus have a little chat! And you go to one of those phones and ring and just hear the clicks! Why, the phones all go down! I was wanting to inquire the other day concerning the state of health of a friend of mine out in the country who was ill, and I did not get an answer. I heard the clicks though as the call was made, and I waited and waited, and finally a voice piped in. She said, "I don't think there is anybody answering the phone at their house today. I learned a little while ago that she is very much better." I did not know who it was, but I got the information I wanted. Now, the telephone is a great thing in solidifying and bringing together the social life of a community, and I am grateful for it on that account. I am looking for the doors to be a little more tightly closed to our insane institutions against these women who have been isolated on the farms hereafter, because they have an opportunity to think, to talk and to have social life over the phone.

Well, I am glad of another thing, and that is that we have in the country the occasional automobile. Now it is not the automobile itself that is doing the work. It is the ambition awakened, it is their longing and hungering and yearning, and all that sort of thing; that is just fine! If you can get a woman to think about a possible automobile I don't think she will have to go to Fulton!

Now there is another thing. I read an instance the other day that struck me as very singular. It was of a woman who had been very saving and economical in the making of butter and in the gathering of eggs and marketing them until she had saved up enough money to buy herself a sewing machine; and then, when she got it, her husband took it and bought a sulky plow! Now, I don't think the man is here, but I tell you we do need, men—now just write this down in your souls—we do need to think a good deal more about our wives and their convenience and comfort. Why, you don't provide any way by which slops may be carried away from the house and the water piped into the house for your wife's comfort as you ought to do. Pipe it away down yonder in a field, down to the old red bull, but you don't bring it into the kitchen for your wife. A man says, "That is right!" Now you know of things like that. Just let me write that down here, write it on the minds and hearts of you men, that we ought to think a little more about our wives and the things that will make them comfortable in their toil and efficient in their service as wives and mothers and at the same time relieve them of a good deal of the grind of life. There is such a thing as having power to grind corn and there is such a thing as having a little power to run the churn and washing machine, and I don't see why, if you have power enough to run the corn grinder or the crusher, that you don't harness the churn to it in some way or the washing machine, and if you did your wife would get a smile on that would last all the year through.

Well, the third branch of my subject is the farmer's boy. I am limited in time, and therefore I am just hitting a few of what I think are practical suggestions as I go along. The farmer's boy: I want to say to the farmer that I think most of his peril is thinking, through a sense of false economy, that he is making sufficient preparation of his boy for life if he gives him a short-cut training in something or other. It is just as becoming in a fellow to have a short-cut suit as it is for the boy to have a short-cut education, and we are all in the habit of making remarks against the man whose clothes are too small for him. It is said over yonder in China when they had the first reception after the new President, Yuan Shi Kai, was installed that the Chinese cut off their cues and came in modern regalia and it was a sight to see! Some of them had plug hats on with nothing else to correspond, and some of them had shoes that did not fit them, and they had trousers that were too short, and some had gone and bought calico and had trousers made for themselves, and it was a great exhibition of differences of taste! Well, now, the incongruous is just as incongruous when we are living in this century, of simply short-cutting in our preparations for this century and these opportunities that are before us. Let us give to the boy the best chance we can.

I want to say one more thing: They are beginning all over the country in various widely separated spots to gather districts in groups and building rural high schools. You foster that. That is another interest of your boys, and if it is not your boy it is your neighbor's boy—if not your girl your neighbor's girl. That is a great movement, men. We can build, like they have over there in Putnam county, Illinois, a fine high school away out yonder, nine miles away in the country, and binding together three districts, hire a superintendent and pay him fifteen hundred dollars, and other teachers and pay them nine hundred dollars apiece. We shall then have something magnificent for the rural community. We just want to spread that sort of thing all over the State of Missouri, in my judgment. It is for the boy.

Now, with reference to the girl, the farmer's daughter: I think she is the most interesting part of the subject because we all like to look at her, and I think everybody will be interested in what I am going to say. I am not going to speak about the general things, but call your attention to two or three specific things that I think the farmer needs to think about so far as the girls are concerned. The first thing is on the subject of fashion. Did you hear that? I am a preacher and I am telling you something on the subject of fashion! My name is not Worth from Paris, but I believe in fashion. What is fashion? Fashion is sometimes connected with extravagances on this side and extravagances on that side, but fashion is nevertheless the way in which humanity expresses its best ideals with reference to human apparel. Now there are girls that I think go a little to the extreme and there are boys that I think go rather to the extreme, too, and there are things of that sort on both sides, but fashion, as long as humanity lives, will continue to be and be growing with the growth of men and women. You remember what your Bible says about the bride? When it wanted to describe heaven coming down to earth the finest way by which the Bible could describe it was to say this: "I saw the new

Jerusalem, the Holy City, coming out of heaven from God adorned as a bride for her husband." That is the biggest hour that a girl knows, when she adorns herself for her husband. When she dresses herself for the great sacrifice of her life and assumes the responsibility of his honor and the responsibility of his progeny and the responsibility of the ideals of a home. Why, there is not anything too good for her just at that moment. The fathers are willing to make the sacrifices, and the mothers spend days or weeks preparing the apparel of the girl for that supreme event, and the latest fashion is the pattern according to which everything must be made. I am saying this with reference to the country girl, because oftentimes she gets dissatisfied when she goes into town and sees things. Dress her well, men, for she is your daughter. She is the hope of the purity and the religion and the social life of your community. Let her grow and be awakened for further growth.

There is a second thing I want to say with reference to the farmer's daughter, and that is on the subject of amusement. Now, amusements ought not be recommended very much by a preacher in the ordinary view of things, but I am going to tell you that we are organized for amusement. We must have it; we will have it, and if we cannot get it in refined and tasteful forms we will get it somehow or other. Bound to come. We must have it. God has made us that way. I was interested in reading the old Prophet when he was describing the future glories of the church and he used this language: "The street of the city shall be full of boys and girls playing in the streets thereof." Playing boys and girls is the prophet's ideal of future glory. You have got to provide for it, you must provide for it, men; you must let it get into the program of country life. Not mere coarse forms of amusement, but things that will really be edifying and helpful and stimulating at the same time that they amuse. I am mighty thankful for the machinery that reproduces music. Those Victrolas have been a wonderful help to humanity. Last summer one Saturday night the moon was full and I said to a bunch of men in a hotel in Jerusalem: "Let's go up to the Mount of Olives tonight," and they said "all right." And we footed it up over the rocky way to the top of the Mount of Olives and when we got there what do you think we heard? We heard a little, old, wheezy phonograph picking out an Arabic song—it must have cost two dollars and a half or something like that. But those Arabs were lying around there on the ground listening to that little, old machine splutter an Arab song. There are ways of amusement that are refining and helpful and stimulating, and it is up to the men and the women who live in the country to think out the refined amusement, to see that it is provided for these boys and girls. Now, I am discussing that under the subject of girls because I don't know any kind of amusement that is as good as the amusement that is had under the administration and in the companionship of the girls.

Farmers, let us think on these things and they will add to the joy and comfort of ourselves and our wives and our sons and our daughters.

THE POSSIBILITIES OF THE ONE-ROOM SCHOOL.

(Mrs. Marie T. Harvey, Porter Rural School, R. F. D. 2, Kirksville, Mo.)

Note: One of the most interesting numbers on the Country Life Conference program was the illustrated talk by Mrs. Harvey. Some sixty slides were shown. No report of this address, even though it were possible to show each picture as presented, would do justice to the high character of this address, an address disclosing a thorough understanding of country conditions and delivered by an educated and cultured teacher whose life is being devoted to a cause she loves. Rarely has it been the good fortune of Farmers' Week visitors to listen to an address of broader vision, greater inspiration and more practical ideas. It is to be regretted that it is not possible to publish the address in full. The following is given more in the nature of a summary of what Mrs. Harvey said. Added to this are some facts reported by Prof. George Melcher of the office of State Superintendent of Public Schools:

Mrs. Marie T. Harvey.

To those of you who are familiar with my long and constant advocacy of the consolidated rural school for Missouri my choice of a subject for discussion this afternoon, "The Possibilities of the One-Room School," may seem strange. You have heard me insist that the consolidated rural school is the one type of rural school that can most efficiently serve the community, that the building and proper conduct of such school would be the best kind of business investment for all taxpayers in the enlarged district. In spite of this and at a time when a progressive Legislature has not only made the building of consolidated schools possible, but has actually offered a premium for their erection by providing substantial State aid, making it possible for such districts to acquire suitable grounds, building and equipment, I come to talk of the one-room school.

Why do I select such a subject? The subject is selected for the same reasons that my present field of work was chosen. Today the air is charged with currents and counter currents of rural enthusiasm. A few experts and numberless nonexperts are offering countless untested theories and prescriptions for the solution of rural problems, as they are termed. At such a time my choice of a one-room school in the open country, a school that offered all typical difficulties as well as some that were unusual, was the subject of wonder and speculation in school circles, and, perhaps, somewhat of a shock to my friends. Because of this it seems appropriate that I explain my interest in the one-room school.

(a) The one-room school, by reason of its contributions to elementary education in the nineteenth century, has had and still has a strong hold on the confidence and affections of country people.

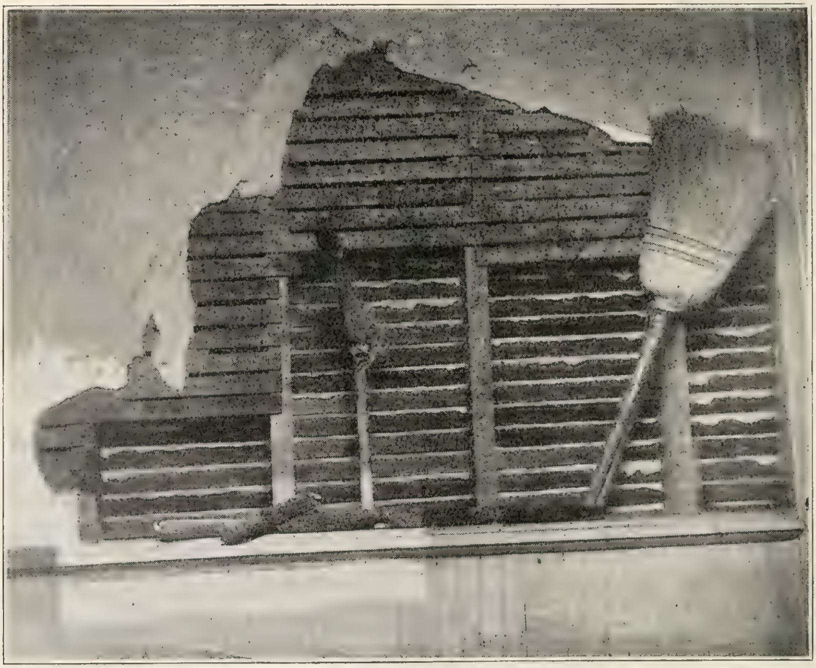
(b) Even with the rapidly growing sentiment in favor of the consolidated school and all it stands for, the fact remains that thousands of the most promising boys and girls are suffering for the lack of educational opportunity that is their right. Other thousands will have to suffer before the State can possibly put a good farm school within reach of every home in the rural districts of Missouri.

(c) Missouri has approximately 10,000 one-room schools, in which at least 200,000 children of varying ages are receiving their preparation for citizenship.

Community co-operation, September 3, 1912. Bringing sand from river, five miles distant, for the basement.

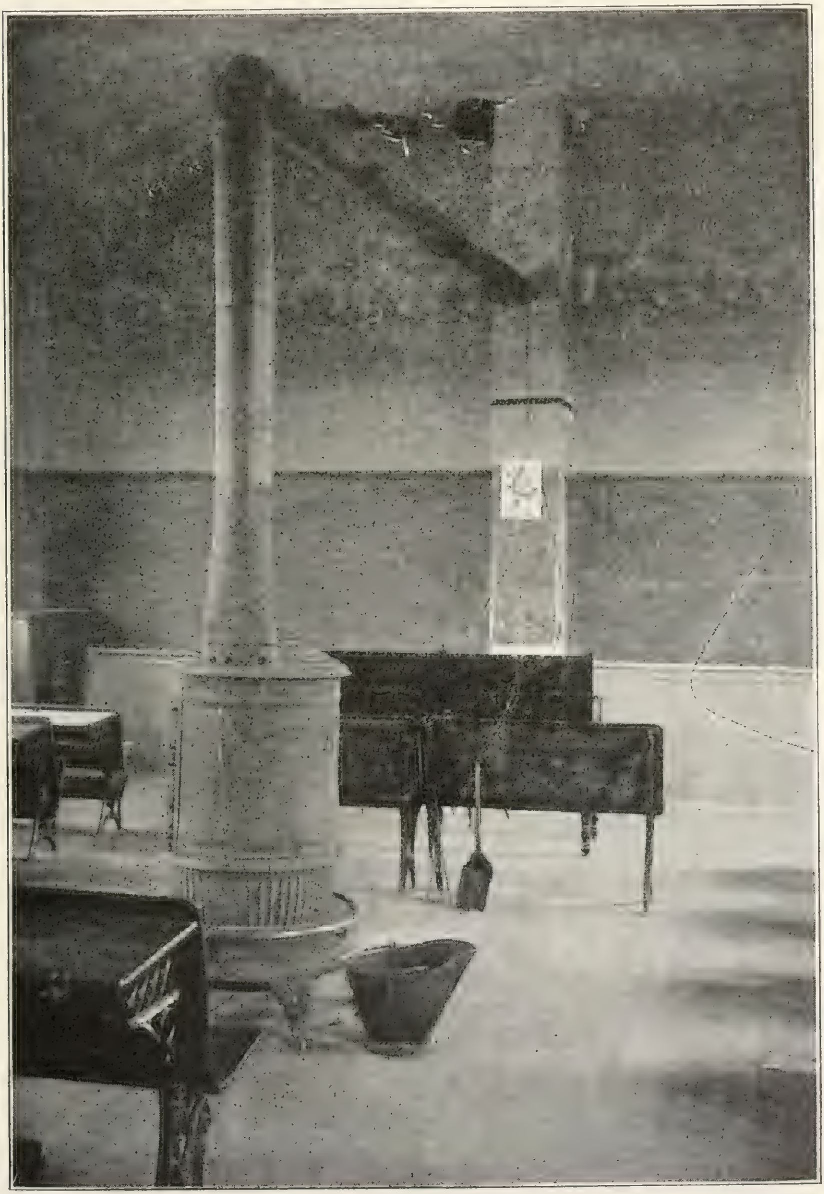
(d) Judging from the schools that I know, one-fourth of this number, or 50,000 children, will be men and women in an incredibly short time. They will be founding homes, participating in the public business of the district, county and state. Often they will be exerting the determining influence on public policies conscientiously; but alas! often to the detriment of the cause they would serve and for self-evident reasons.

(e) In view of these and other related facts, these ten thousand one-room schools should make the closest possible approach to educational efficiency in the shortest possible time. Listen to these words if you will—"the closest possible approach to educational efficiency in the shortest possible time." A chance—a "square deal" for the boy and girl of today!



Vestibule as it appeared in 1912. Schoolhouse fronts west.

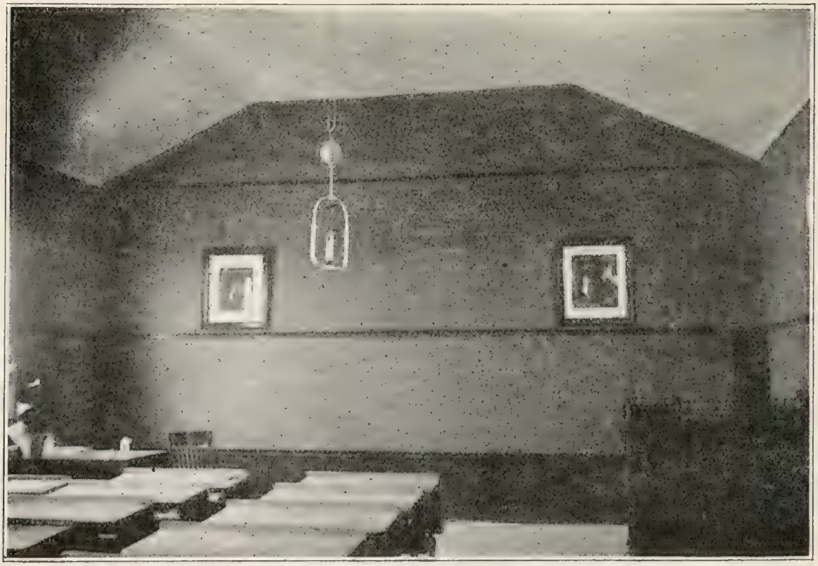
Doubtless my two years' connection with the model rural school on the campus of the State Normal School at Kirksville revived my earlier professional ambition to help country children, and had much to do with my decision to again engage in rural school work. May I say just here that country children have the same native instincts, interests and capacities possessed by city boys and girls, with the additional advantage of the country environment. Contact with those children, with normal school students and educators at Kirksville, as well as with country teachers, school officers and parents in the field where I did much extension work, revealed conditions and needs that impressed me



East wall, 1912. Note stove in middle of room, wired stovepipe, broken ceiling, hanging wall paper, height of blackboard, location of flue, arrangement of furniture and other equipment. Woodwork painted a blue gray and badly soiled.

deeply. In this work any plan that I offered to substantially improve country schools was courteously but firmly rejected as "good but impracticable for us." My confident and enthusiastic advocacy of a theory, supported by a successful demonstration before teachers, often brought from them such a response as, "If I had a model building like this, if the children were transported, and if I received a large salary like you are getting, I know I could be enthusiastic, too, and get better results. But, Mrs. Harvey, you do not know conditions in the country." These and other circumstances that there is not time to discuss combined to point the way to the pioneer work of demonstrating some possibilities of the one-room school with no other resources than those at the command of the district.

On July 17, 1912, I got my own consent to sign the contract "to teach" the Porter school for eight months at $50 per month. Beyond assuring you that despite difficulties usual and unusual, and unaccustomed physical hardships such as were unnecessary in my little school in Kansas twenty years ago, hardships which worsted the teachers twice during the first term, I have never undertaken a work so interesting, so satisfying or so important as this. Already there are some deductions that could be offered that are applicable to all similar schools.



East wall, 1913. Note light ceiling, soft tan wall paper, picture molding, lowered blackboard, good chalk rack, absence of old flue, telephone, new desk and chair, organ, lamp and rearranged furniture.

Because of time limitations it will be possible to give you only a brief glance at each of the sixty-three slides which will tell you in part the story of the Porter school development to date and its relation to the community life. While the pictures stand for many different things, we will endeavor to attract attention chiefly to the changes in physical conditions as necessarily preliminary to better school work, better school spirit, a growing community spirit, and the really remarkable progress made in so short a time under the most difficult conditions.

A basement view, 1914. Note pneumatic pressure tank, drinking fountain and kitchen sink; also oil stove. Floor concreted by men in district who donated labor.

The Porter school district, containing nine square miles, lies contiguous to the city (Kirksville), a fact that makes the development of community spirit more significant. Its assessed valuation today in round numbers is $109,000. Previous to 1912 it sustained its school on a twenty-cent levy, had the divided term and the characteristic rotation of teachers, not one of whom can be justly charged with the state of affairs that prevailed for years. Although the enumeration listed fifty-two, the average attendance ranged from eight to thirteen. This calls for explanation. A voluntary transportation route to feed the model rural school of the State Normal School drew most heavily from this district in its five miles' course. It stands to reason that parents living on a route offering the benefits of transportation, expert teaching, free textbooks and a comfortable building would avail themselves of such opportunity and would not be actively interested in the development of a local school. Thus unintentionally was this district devitalized.

PORTER SCHOOL ADAIR CO. MO.

Transportation, 1912. Wagon donated. Starting from the Allen Conner home, a terminal point on the voluntary route. Mr. Conner donated use of team for six months. Fred Conner, seventeen years old, driving. Two other patrons insisted on contributing towards the expense of the route that year.

There was lack of local co-operation, local initiative, and worst of all, lack of local faith in the possibilities of bringing about a permanent regime of progress. This was shown in the determination of a number to retain the advantages of the model rural school at Kirksville, even though they had petitioned for the retention of this teacher in that school. The model rural school with another teacher was a more certain proposition than this teacher with the old Porter school, frankly described by one mother as "unfit for my little girl to attend in cold weather." They had learned to appreciate the advantages of a suitable

Planting the strawberry bed, April 22, 1913. At the school garden, teacher's cottage, three-quarters mile north of schoolhouse. Plants brought from St. Louis county in suit case by Miss Crecelius, a former pupil of Mrs. Harvey's at Clayton, Mo., who is directing the work.

building for their own children, but had not reached the point where they were concerned about housing conditions for their neighbor's children "across the railroad."

As stated before, having won my own consent to undertake the management of this school I submitted my general plan to President Kirk of the Normal School, who gave it his hearty endorsement. At that time we both expected this route to be

Tomatoes from school garden. Ponderosa variety. Gathered August 6, 1913; weight, 3¾ pounds. Plants taken up April 18th; set out April 23d. Brought from St. Louis county by Miss Crecelius. Season particularly bad—no rainfall between July 24th and August 11th. All planting and cultivation by younger children. Produced earliest tomatoes in community.

abandoned. So much for an understanding of purposes and conditions.

(At this point in Mrs. Harvey's address the first slide was shown. As the auditorium was darkened from this time on, the official reporter was unable to proceed further.) Much has been written concerning the Porter rural school and Mrs. Harvey's work. The following from the Missouri School Journal is part of an article by Prof. George Melcher of the office of State Superintendent of Schools:

First and only teacher's cottage in Missouri (so far as we know), September 1913, showing petunias, geranium bed, etc. Work of smaller children and teachers. In this case the teacher rents the cottage.

I shall divide the improvements observed into two classes. I shall name only ten improvements in each class. The first class are ten things that any wide-awake teacher in any Missouri school can do or have done by the pupils or others.

First. Several sets of good supplementary readers have been purchased. These stimulate interest in reading and in school.

Second. A good bookcase to protect the books has been made.

Third. A reading table has been placed in the schoolroom.

Fourth. A few pictures (masterpieces framed) have been hung on the wall, not on nails, but picture molding has been placed around the room.

Fifth. The desks have been arranged so that seats of the same size are in the same row.

Sixth. A flag pole has been erected and supports the "Stars and Stripes."

Seventh. A volley ball has been purchased, a giant stride constructed, horizontal bars (two sizes) set up for the boys, and at recess and before school opened the visitors saw the children really enjoying themselves as one group swung around the giant stride, another group played volley ball and a third group indulged in a game of ordinary ball. These are not the only games in this school, but are the only ones that the visitor saw.

Eighth. Adjustable window shades have been purchased. By means of these the whole window may be shaded, none of it shaded, the lower part shaded or the upper part shaded; thus complete control of the light is obtained. Such shades can be secured for 65 cents each.

Ninth. A parents' club has been organized and gasoline lights installed.

Tenth. Agriculture is being taught concretely. The children actually plant seeds, cultivate the growing plants and study their growth. Some of the simpler things in household arts are also taught in a concrete way.

By the way, a Babcock milk tester was seen at this school. This instrument was a loan, but served the school as well as if really owned by the school.

Ten more difficult things are:

First. A splendid basement has been constructed under the house. The entire excavation for the basement had to be made. The bottom and walls of the basement are of concrete. This basement is about 8 feet from floor to ceiling, and furnishes ample space for a heating plant, fuel room and play and workroom.

Second. A hot air furnace has been installed.

Third. Running water has been installed and a drinking fountain. This was installed for about $50. It is very simple and any plumber can install the system, a force pump in the well, a pressure tank buried below the frost line, a bubbler and a few feet of pipe, and a plumber who knows how to make the proper connections.

Fourth. The house has been repainted both outside and inside, guttering put up to insure a dry basement, and windows and door screened.

Fifth. An organ has been secured and the children are taught to sing. The boys ranging in age from six to eighteen years can sing entire selections without the aid of the girls.

Sixth. The slate blackboard which was too high has been lowered so that it can be used advantageously by the children.

Seventh. Three or four dozen folding camp chairs have been secured. These can be easily and compactly stacked away and used when needed for classes, visitors or community gatherings.

Eighth. A real home garden has been made at the teacher's cottage, and much of the work on this garden has been done by the pupils.

Ninth. A short course in agriculture has been arranged for November of this year.

Tenth. By a voluntary arrangement transportation is provided for the pupils. One of the older boys drives the school wagon. A standard 12-foot Delphi school wagon has been purchased.

Commenting further, Mr. Melcher says:

It should also be noted especially that in making these improvements most of the labor was performed by the patrons and pupils and teacher. Some of the patrons worked as many as 20 days gratis, excavating, cementing, painting, etc. They are learning the meaning of teamwork, and other improvements will be made this year. Indeed, several improvements which are not mentioned have been made.

AN INFORMAL TALK ON RURAL CONDITIONS.

(Hon. B. F. Harris, chairman committee on agriculture, American Bankers' Association. Champaign, Ill. Mr. Harris spoke informally. The following is as the official reporter turned in the copy, which has not been revised by the speaker.)

Mr. Chairman, Ladies and Gentlemen: In diverting your attention I hope I will not take your minds and hearts from the remarkable address Mrs. Harvey has just given us, because in such work as she is doing, and as can be done in the country school, lies the solution of the better agricultural problems and rural life problems for which we are all working. It is just such a solution as this, which ought to prevail throughout this country, that is to make rural life in America what it ought to be—the greatest rural civilization the world has ever seen. We all agree, I am sure, that the most

B. F. Harris.

important problem before the nation today, barring none, is the building up of rural life.

The Illinois Farmers Institute has said that the greatest problem in connection with this work is the farmer himself. The farmer is the problem within the problem. And if that be so, then the farmer on the farm—not the retired farmer, but the farmer on the farm, following soil, conserving methods of agriculture and having his family's welfare and his community's interests at heart—is the most important citizen in the nation today. There is no question about that in my mind, and I don't believe any one who has given it any thought feels differently about it.

The care of the soil and the care of its caretakers is the problem of today. It is not the question of talking to people and getting them to like the farm better, but it is a question of making the farm and the country more likeable; building up the farm from the social as well as the productive side, for we are all too apt to forget that farming is a life as well as an industry.

We are talking a good deal in the cities nowadays, and it is high time we should, about social and industrial welfare, of making the housing conditions what they ought to be, the social conditions what they should be, and yet all too little has been said about the same thing in the country, and they wonder why it is the people are getting away from the farm. We are getting away from the farms for very many reasons, and one of the reasons is these one-room schoolhouses. Getting away because the schools are not doing for the children what they ought to do, what Mrs. Harvey has shown us even a one-room school can do.

Mrs. Harvey is an asset to this State; no similar address has ever so impressed me as has hers. It represents a life's work for the life of the country school.

We are apt to say in connection with rural life that this or that problem, whatever it may be—schools, roads, churches, production or marketing, any one of a number of problems—is *the problem*, but fortunately we don't have to waste time deciding which is *the* problem, because we may work on all of these problems at the same time if we will. Yet after all, the school is the most important and the vital problem. Now, it is perfectly possible to make the one-room school what Mrs. Harvey has made it, where men and women are willing to take the hardships and undergo all the difficulties which Mrs. Harvey has doubtless had to undergo to get the results she has obtained, but it is unfair to put that burden on the few men and women who are able and willing to do that work. The states over, it can not and will not be done in that way, but through consolidated schools.

Now, I am sure your schools here in Missouri are no better than the schools in Illinois, and Illinois prides herself falsely in many instances upon what she has accomplished as a great agricultural state, yet she has something over ten thousand one-room, ungraded country cross-road schools, and I know of but few that begin to approach what Mrs. Harvey has been able to accomplish with her school. Stop again to realize that in those schools some three hundred and fifty thousand boys and girls of Illinois are getting—in ninety per cent of the cases—all of the education that they ever get in those one-room ungraded schools. Now in those schools we have many teachers—thirty or thirty-five or forty-dollar, poorly equipped, poorly paid teachers. Some statistics recently given by Superintendent Blair of the State Board of Education show that out of some thirty-one thousand school teachers in the State of Illinois sixteen thousand have had no normal or high school training. I don't like to speak of my own state in just that way, but these things must be spoken of plainly; that is the way to get results. Fifty-six per cent of those teachers have not had either high school or normal training, and that means that a large majority of our country schools are taught by those teachers, for the larger communities have more requirements and they pay better wages. The boys and girls are penalized in the country with schools, in Illinois and in Missouri and in every state of the union, with schools that most self-respecting towns or villages would not tolerate. And so in the few words that I will say to you this afternoon I cannot begin to say anything that would leave the impression with you that the matter of schools should have. You should carry away, carry always, these thoughts that Mrs. Harvey has left with you. In other words, the effort to better rural life in this country begins right in those schools, too many of which will continue for some years to come as one-room schools.

Now we had a story in some of the literature that we are sending out to the bankers to get them interested in agriculture, for you know one way to interest people is to tell a story to focus their attention. We ran across a little story of a farming community where the farmers very properly wanted to improve their live stock and bought a very fine Percheron stallion. He cost $2,400, and having such a valuable horse they properly felt they must be particular to get a careful and competent groom, and so they devoted a great deal of attention to getting the right man, and they finally got such a man at a salary of $75 a month and board. Shortly after that it happened that they needed a new school-teacher, and some of those same men, directors in this horse company, were also directors in the school. After looking about, and after a good deal of hair-splitting and bickering, they selected a young lady from town who did not know enough to boil water without burning it, and they paid her a salary of thirty dollars a month and she boarded herself—and was supposed to train the children. Now that little humorous story, which is really a very serious one, may help drive home the point. We think much of our live stock and all that sort of thing, and, of course, much of our children, yet we forget or neglect properly to do the greatest service we can ever do our children—that is, put them in proper environment and see that they receive such an education as they are entitled to.

Now, the church follows along with the school. The school and the church must be our community centers.

Just the other day in our magazine, "The Banker-Farmer," that we are getting out and that goes to the bankers all over the country suggesting ways and means whereby the bankers may be of service in helping toward a better agricultural and rural life, we referred to the fact that the country minister of the future must know something about the geography of the country this side of Jordan. I got a letter from a country minister in one of the neighboring states who had happened to read "The Banker-Farmer," and he said that it was right, but, said he, "I will tell you one thing perhaps you can do, and that is to see that the farmers are more prompt in paying their country pastors. If they were more prompt things might be in better shape. Farmers are in the habit of getting their living out of the farm and they don't realize that the country pastor has to buy in the country town everything that he uses, and so you will be of service to the country pastor if you pass that on to the farmer."

Now the answer to that comes back again to the "geography this side of Jordan." If the country pastors and a large majority of our city pastors would get in touch with the people to whom they are preaching and among whom they are living, just as Mrs. Harvey has gotten in touch with the conditions in which she was teaching, there would not be any trouble about the ministers getting their salary and having a good congregation. The minister, like the teacher, like every one else nowadays who wants to carry home any message, must speak in the terms of the life of the people to whom he is speaking. The minister in his work can connect up and relate the cultivation of the soil and the soul, and show the analogy between better seeds and better deeds, and all that sort of thing.

Now, as I came along down here today I noticed the country in Missouri is much the same as it is in Illinois in respect to bad roads. The time has come when the country that is not worth a good road is not worth living in. You know I speak the truth. That is one of the things that makes school attendance poor, and statistics have been gathered in this country showing that where in the case of eight states, all more or less on the same basis in other respects except that four of them have good roads and four of them have such roads as you have on the average here in Missouri and we have in Illinois, and showing that it made a difference in school attendance of about twenty-seven per cent whether the state had good roads or bad roads; and that means a twenty-seven per cent effect on the literacy of the state. There is no question about that. A good deal of the talk about roads has been on the dollar-and-cent basis, and that is the basis that I want to get away from all the while, because when the bankers began talking about a better agriculture some people of course would say, "He has some selfish motive." Bankers are talking about these things because they want more money in the bank, but that is only a small part of the story. The bankers are in this movement in a broad-gauge way. Thirty-six of the Bankers' State Associations have committees on agriculture, and the great American Bankers' Association recognizes and supports that movement and has appointed an Agricultural Commission and given us full scope, and we are committing the bankers to a lot of things which they stand for in splendid shape, and I want you to know that the bankers are vitally interested in this matter. Bankers are just like the farmers, just as many selfish bankers as there are selfish farmers, for human nature runs through all of us alike.

But getting back to the road proposition, the point I had in mind was this: A good deal of our road talk to the farmers was on the basis it cost the farmer so much more to haul grain over poor roads, but that did not appeal to the farmers because a farmer does not figure things the way most business men should. He says he has his horses anyway and teams and wagons, and has to haul anyway whether the roads are good or bad, and he figures along that line.

But there are other conditions than crop hauling that depend upon roads and that are just as vital as getting crops to market.

Improving rural life conditions is the object of the association to which you belong, and I want to say that aside from good schools good roads lead in more directions than any of us can imagine. If you have good roads and the farmers who can afford them have automobiles they can get about, widening their vision. It helps wonderfully in social matters to be able to get in and out to a good country town and have intercourse with your neighbors and know what is going on, to be able to get to church, to school, to town. That is what is going to build up country life and make it desirable.

Farming is a life and people who farm have to live. They have been "living," but it has been a more or less isolated life because of the poor roads and the fact that in bad seasons for several months it is almost impossible either to come or to go with any comfort. They would rather stay at home than go, and then as soon as they get far enough along they move away from the farm and go to town, and the boys and girls living under the average conditions as you find them in any part of the country are only waiting for a chance when they grow up to get away from the farm. Now those conditions are totally different from what they ought to be, and we must work for good roads.

Referring again to the schools and churches, we should have fewer and better churches and schools—more consolidation. We should have fewer schools and school wagons; have fewer churches and better preachers that we can pay better, because in many communities we are trying to maintain two or three churches when we would find it very much better to maintain one church or two churches. We are not very far apart in the line of our religious views—just a few trivial forms. If we had fewer churches and better churches and made those churches community centers, and if the ministers, as I have said, got in touch with the people, he could do for the country churches the same great service Mrs. Harvey is doing in her country school. They are doing this in a number of country churches over this country, and Doctor McNutt, who will talk to you tonight, will give you that side of the matter.

In the same way that we told the story to the bankers about the improvement of the schools we have told stories, numbers of them, which you know and I will not take the time to repeat now, with reference to the farmers who are very particular to see they have water tanks, heaters in their water tanks to keep the stock water from freezing, and every kind of modern machinery out and around the barnyard and in the barn to properly help them in carrying on the work over the farm, and yet, with all the running water and other conveniences in the barn and out in the various lots, in too many instances the farm wife has to go out these cold winter mornings and break the ice around the pump and thaw the pump out in order to get water into the house. There are too many of these things we are overlooking and that we must not overlook in the time to come or we will pay dearly for them.

I want to say just a word further with reference to the banker's work to which I referred. The time has come, long since, and more of us are realizing it in these late days, that every organization and every man who has reached position in his community owes it a public duty, whether in the meagerly settled section of the country, whether in town or in the city, if that community has done something for him, or from it he has been able to accumulate mental or material values, he ought to use that ability, or a certain portion of it, for the good of and to pay his obligation to that community. In other words, he must justify his existence and his talents.

When men get together in organizations, those organizations must show that they have some real purpose in life, and they ought to be of service in the community or state, as the case may be. So it occurred to some of us a number of years ago in the State of Illinois that the great Illinois Bankers' Association ought to stand for something in the commonwealth and be a power working for its welfare. We used to have meetings every year, some good addresses and a good dinner, all that sort of thing, and then adjourn and go home. It occurred to us that agriculture was our greatest industry and our success was dependent upon its well-being. We looked into the matter, found that about sixty-five per cent of our bankers were farm owners and concluded that the Bankers' Association ought to take a position with regard to building up agriculture and rural life.

So our bankers were the first to take up the agricultural work, and that idea has spread until thirty-six bankers' associations have such committees and now the American Bankers' Association has taken it up. For three years those various committees in the thirty-six state associations have been getting together twice a year and conferring in regard to the rural situation. Our meeting for 1913 was held in Kansas City, and we had a two days' meeting—sessions morning, afternoon and evening—with twenty-seven states represented. Every topic, every subject on that program was entirely devoted to agriculture and rural life—not a word said about banking in any way at all, excepting in reference to agricultural and rural credits. I am not here to speak for the bankers, but it is due them to say these things. While I am a banker, I am, above all things, a farmer. The larger part of my worldly goods and all my sentimental interest is in farming and in trying to make agriculture and rural life better.

It is very easy for the politician and demogogue to knock the banker. It appeals to the farmers; you know that. It is done in every Legislature and in every Congress, and is a cheap, worn-out game.

But a new sentiment has spread over this country in the last four or five years, growing all the while, for the people are beginning to think for themselves, getting separated from many old lines; beginning to be a really free people; beginning to realize life really means something besides the dollar mark. There is that feeling of service on the part of an ever-growing portion of the people, and while it has been long delayed, unfortunately a large volume of that feeling and effort is devoted to improving agriculture and rural life. Your afternoon is about closed and I will not take your time further, but it is fine to be here with you in Missouri, and I am to speak to you tonight on another subject. I don't need to tell you that your Bankers' Association here in Missouri has a splendid committee on agriculture and the bankers have been largely instrumental in extending the farm demonstration work. That just reminds me of your own Sam Jordan of Pettis county, whom many of you know. We had him speak to the conference in Kansas City, and then brought him on to Boston and had him speak to the American Bankers' Convention in Boston with some five thousand bankers present, and Jordan did himself and Missouri full justice.

There is no question about the value of demonstration work, yet many of the farmers are inclined to think that any one that comes out of some college or any one who suggests new ways is not worth listening to, and that he will not have anything to do with "new-fangled ideas." Those farmers are falling to the rear like all other standpatters (laughter)—I don't mean that in any political sense, either—that did not enter my mind. But you know the world moves and a great many people don't move with it. You know some say, "Well, my father did so and so—it's good enough for me," and all that sort of thing. You know the man who does a thing because his father did really doesn't stand where his father stood because the world has been moving all the while. "Father" may have stood pat but the world doesn't, and we don't have to prove now that "it moves." Sam Jordan points the moral very well. He tells how he went into a certain community here in Missouri, where you have some farmers of the same kind we have in some other places, and that farmer said, "Well that is all right; you cannot tell me anything about these new-fangled notions," and they were talking then about seed corn. Jordan said, "Well, my friend, you will find you have to test seed corn;" no question about that. The only question is whether you are going to test it in the box, in the house during the winter, or if you are going to test it out in the field. When you test it out in the field you are going to find a good many seeds did not germinate and, maybe, a five or ten-bushel loss in yield per acre. And so a good many "standpatters" are being jarred loose and things are moving and they are moving gloriously. I congratulate you on this splendid meeting. It is good to be here.

PERSONAL RESPONSIBILITY.

(Hon. W. B. Sanford, Springfield, Mo.)

W. B. Sanford.

Ladies and Gentlemen: It seems your chairman is given to mistakes. When your meeting was opened he asked all the members of the audience to come forward, alleging that Dr. Black's voice—the voice of an orator—was weak. Now, I will straighten out that mistake. I told him to ask you to come up here because my knees were weak, and he got me confused with Dr. Black.

Dr. Black has touched beautifully on the new conditions. The speaker who has just preceded me has talked and told you more eloquently than I could, were I to try, of what the conditions of this day and time demand. I have not lived in the country for years, but my love and affection and the beautiful memories that I have of my home life on the farm have endeared the farm to me to the extent that I have not ceased to be a farmer. While I am a native Missourian, yet in infancy my father moved out of this State into Arkansas, and there he lived as an humble citizen, in an humble home, in an humble way, and to my mind, when I go back and think of his life of drudgery and toil and the things that came up in his life, the many conflicts he had, I feel that he was indeed a martyr. Then when I think of my sainted mother, I only think of her in reverence, and think she was the noblest, truest, purest, grandest and best woman that ever lived. These are the sacred memories that cling to me from boyhood days. I can recall the little things that would be of most consequence to me and would be tiresome to you, but to me they all cluster with fragrance and tender memory. I am sorry that there are not more old people in the audience to whom I could tell them, for they could appreciate the conditions under which I lived. But this is a new era and new conditions have come. So I will change my line of talk a little because I want to suggest to you some of the responsibilities that have come to you as citizens under the new conditions.

When I think of my old home, the old log house with its sycamore rafters with the bark on them; when I think of the old shade trees in the yard, the blue grass, the bee hive, the hollyhocks, the garden box and everything that made the old style home, a distinct sadness comes to me, for they are gone. In that primitive day the people were so dependent one upon another that they endorsed co-operation; conditions enforced co-operation, and we did not have the need for organized co-operation as we have today.

As a small boy, I can remember the time when the day would come for the logrolling, for the house raising, the hog killing, the quilting bee, the corn shucking and all those things, and at times it makes me cry when I think that they are gone with all their memories. I know that people at this day and time are looking at the practical side, and in the mad rush for business are inclined to think that those things were sentimental and unnecessary, but I thank God that I had that sentiment. I feel that I am a better citizen today than I would have been if I had not had it, and for those of you who are not old enough to have lived in that day and time, I feel sorry for you; I feel sorry for you now if you have never had such a sentiment.

The speakers who have preceded me, as I have stated, have spoken so beautifully about co-operation. That was largely the line of my talk, but I will change that now. I want to talk to you about personal responsibility.

In the business and active business life I have lived I have seen many phases of human life. I find that in most of the wrongs of life that those who commit the wrongs are not so much to blame, and in my mind are not so much responsible as the conditions and environments that surround them. We hear a great deal in this day and time of organized effort; we hear about the organized effort to relieve distress, want, suffering and charity; we hear a great deal on public questions of temperance and intemperance; the different evils that surround city life especially, and I have never known an individual case that I looked into but what I felt after having looked into it that I, as a member of society, was partly responsible for that condition. I have felt my responsibility more as a citizen, and I have made more resolutions after seeing these evils, some of which I did not live up to and some I made forcible efforts to live up to, than from any other one thing of life. You know the Big Book tells us that "no man liveth to himself; no man dieth to himself," and in this day and this enlightened age it is time for us to realize that we are indeed "our brother's keeper." How often you read in the glaring headlines of a newspaper of some poor, misguided country youth that has committed some crime when partly intoxicated; you talk about how heathenish it is, but if you look back, nine times out of ten the responsibility lies with his neighbors and surroundings. In this day and age we not only owe it to ourselves as citizens, we not only owe it to ourselves as members of the community, but we owe it to the members of society and to the individual that every girl and every boy in every community, both city and country, is taught a vocation and given the necessary knowledge that will enable them to earn an honest living.

We also, as has been beautifully touched on today by one of the speakers, owe it to the young people of this country that we do something for their pleasure. If they don't get pleasure of one kind they will of another. Now, let me appeal to the good women of every community for the good of their own community. Do you know that right in hearing of your telephone, as has been so beautifully described, and perhaps on an adjoining farm, is some poor girl aching for an opportunity to find her way in life and prepare herself to make a respectable living, to become a good cook and good housekeeper and a loving wife? And do you know that they feel a delicacy in making those wants known? Do you know that their souls are starving for some good woman just like you, not to go to them in embarrassment and say: "You are not up to the standard of what young women should be in our community," but say, "We want you and we want every other young woman of a certain age to come and go into some society." What are our churches for? Come to our church; come to our schoolhouse. Let us organize. We are going to start a cooking club; going to teach every girl in the community to sew; going to make it a matter of pride in this community that when a young lady goes out of her home she is prepared to take her place in the world and earn an honest living, if need be, and she is prepared to make a dutiful wife and good housekeeper. Now come. It is no reflection on you to come; it is an opportunity and we want you to come. We want you to do us good and we want to do you good." There is the spirit of co-operation.

Let me tell you an incident that occurred under my own knowledge a few months ago, and I never had anything to touch me more. I advertised in the paper for two girls, a house girl and a cook. The next day two big, strong girls, just the pictures of health and young womanhood, came and applied to my housekeeper for the position. They said that they were sisters and that they had come from two counties down below me. Well, of course, I had nothing to do with that; she employed them. After the first meal I saw that they did not know the first thing about cooking. There was so little to do so far as the house girl's duties were concerned, the idleness and the leisure made her restless and she was impatient. So she went down town, looked in the shop windows and saw the attractive things, saw the girls in the store, and it dawned on that poor, misguided girl that she was competent to take a place as a "sewing girl." As she put it, "to learn how to sew, how to make those beautiful dresses." So she came back after two days and said she believed she would prefer to go and learn dressmaking, or sewing, and that she had a position offered her down town. My housekeeper told her that was all right. In the first place, she did not know anything about the duties at my place. She quit and went down town the next morning. At night she was back and said that she had lost her place, but that she was talking to her sister and her sister wanted to know if we would take her back. As neither girl was competent to fill the places we had my housekeeper suggested that she would go down and intercede with the dressmaker to see if she could not again get the place for the girl, who wanted to sew. She went down and asked the dressmaker why she did not keep the girl. "Why," the dressmaker said, "she came in here and told me she could sew. When we tried her she could not sew a straight seam; did not know the first principles of sewing; never had run a machine. I told her that she was just fooling away time here and that she had better go and learn something else. She told me about giving up her place at your house and I told her she had better go back."

To make a short story, that girl came back and told her sister there was an advertisement in the paper of work for girls at an overall factory. So the sister, the one who was pretending to cook, came and said she believed it would be better for them both to go, that they would rent a room down town and work at this overall factory. They went down and got that place. They just worked one day, and were back again. The proprietor of the factory told them they were not competent, that he had to have girls with more experience. So they came back. Well, the thing was getting serious then, and that was where my first knowledge came in. I called them in and asked them where they were from; they told me the town they came from, about sixty or seventy miles below. They had seen a copy of my advertisement in one of our daily papers and came, just supposing, of course, that it was all right. I told them that I would give them the money to pay their railroad fare and they had better go back home and practice up a little bit with somebody in the community and learn to sew, to be more competent to fill the places. They were ashamed to go back. They told me their story. They were both poor girls, splendid girls I think, but ignorant. They said their mother died when the oldest one was seven years old and the other four. They had lived in that community with the father, a farmer, on a little farm, and he had worked around for his neighbors a little and managed to eke out an existence. As little girls they had, with his help, done what cooking there was to be done, and they told me that they never had a chance to learn anything. I said, "Did none of the neighbors ever volunteer to help you?" "No." "None of the neighbor women ever come to see you?" "No." And there they had grown up in ignorance and thought themselves as well equipped for the battles of life as the ordinary girl.

I know nothing about the lives of those girls since, except that I know their lives were wrecked, and I want you to tell me who was responsible for the wrecking of the lives of those girls. Was it the girls themselves or was it at best themselves and neighbors? You know, the Good Lord told us that the world is our neighbor, and it is those conditions that we talked about in this particular instance that make it imperative, that throws the responsibility on you as citizens. Now, parents, think of this side. You may say that it is not necessary for your daughter to ever take such a position; it is not necessary for your daughter because you can give her some advantages that other people don't have, but don't it stir your heart to know that there are people in your community growing up just like those two girls, and, if not in your immediate community, in some other community? It is time for good citizens of this country to arouse themselves to a knowledge of those conditions and to rectify them.

You must in your own homes provide entertainment for your young people, for your sons and daughters and for your neighbor's sons and daughters, to elevate them and let them know that their duty in life is toward high ideals and good citizenship. I guess I am transgressing, going over my time, but I wish I had an opportunity to talk to you longer just along these lines. There are so many touching things in my life on the farm and in the country that I would like to tell you.

I have not time to go into detail, but in the crude, simple life that I lived I want to tell you one of the little incidents and the sequel to it.

When I was a little boy, seven years of age, I went to a neighbor's house, to the home of a poor widow, to stay all night with her son. When I got there she had some ducks and I was very much impressed with the ducks. I was very anxious to make a trade with her, to get a duck. She said to me, "No, I cannot sell you my ducks, but if you will bring me some fresh hen eggs I will trade you some duck eggs for them and you can hatch your ducks." I went, childlike, the next morning—I could hardly wait—went and gathered up the few eggs I could find. I walked three-quarters of a mile to make the trade. I had seven hen eggs and she traded me seven duck eggs. Seven ducks were hatched. In a little while I traded my ducks for a pig; I traded my pig for a calf; I traded my calf for a colt. Later I sold the colt and it brought me my first hundred dollars. Now, the point in this story is that you must interest your children in your life on the farm; let them have some farm associations in their memories; let them plant their trees. Even the little girl wants to plant a tree, and let it be her tree. Nothing brings more sacred, tender memories to children than the memories of the things they did on the farm. I was telling a gentleman last night that when a boy I had planted trees, nearly forty years ago, dug the holes and planted them myself, and now they are great big trees, and while I do not even own the property, but when I go by there I stop and look. I have a love for the place simply because of the memory of those trees.

But I am going away from the old lady. I returned to that neighborhood about a year ago, and to one of the old people who had lived in the country mentioned this old lady's name. My brother told me, "Why, she is still alive and she is down here," mentioning a place about twenty-five miles away. "Well," I said, "I must go to see her." We drove over to see the old lady, and I never made a visit that did me more good. The poor old soul took my hand between hers and cried like her heart would break. She was still in poverty, had been in poverty all her life, as she said. We talked and talked about old times. She had her memories and even remembered the incident about the duck eggs which was very precious to me. When I was leaving she insisted on my staying for dinner, but I did not embarrass her by staying. I told her I wanted to go back to my old home for dinner, but I gave her a little money. I shall never forget the expression on the face of that dear old soul as she threw her arms around me and patted me on the back and said, "God bless you, God bless you, God bless you." And the memory of those whispers still clings to me like a benediction, and I feel that I would not trade them today for any other incident of my life, the memory of that dear old woman's talk and whisper as she said, "God bless you."

MY EXPERIENCE IN COUNTRY ORGANIZATION WORK.

(Mrs. Irma Mathews-McLennan, Oklahoma City, Okla.)

I have often said to the people in Oklahoma that I was a Missourian, and if I did not tell it they found it out anyway. What there was about me that told them I was from Missouri I never have known, but the fact was there. I have found many of my kinfolk and fellow Missourians in Oklahoma, and have not felt so far away from home, perhaps, for that same reason.

I deem it an honor that I am asked to return to my native State and speak to you this afternoon on organization. The subject assigned me may seem largely personal, but since it was assigned by my former instructor, Professor Emberson, I feel that I have no right to object. The subject assigned me is not concerning one woman's work; it is the work of the universe; the work of every good woman who has helped me and every good man who has said, "I believe in you." Those are the ones whose work it is, and if it has been my good fortune to help just a little in leadership then I am glad and heartily glad, but the greatest gladness that comes is because the people have awakened to the possibility of not what I can do but what they can do; of not what I would be able to help them but of what they need. They have learned the strength that comes from banding together and what they can get for themselves. These, then, have been some of the greatest things that have come to us in our new state.

We were the baby state until the twins, Arizona and New Mexico, put us out of business, and I don't think that we have forgiven them yet. The baby state is new in a lot of things, particularly new in experience, but we were all conscious that we had some of the biggest-hearted men of the universe, anxious to give in that new country every advantage that they could possibly give to their boys and girls and to their families. Because of these conditions I think they have rallied faster to such standards than people in my own native State, because you know we, as Missourians, sat down and said, "there is McGee just north of us, that is a good family;" yes, and "there are the Smiths south of us; that is a good family," and we just associated with them and have not felt the pressure on all sides. But our men went into a new state and did not know Tom, Dick or Harry, and knew better than to ask down there, so they just kept still and went to cultivating that man or woman for what he or she was worth. Now don't you see the conditions that made it perhaps a little easier sailing in our State of Oklahoma in organization than it is in Missouri? But man to man and woman to woman, there is very little difference in the heart of humanity and there is very little difference in human needs. We need just as much sunshine to make the heart glad, need just as much joy to make us better, need just as much of brightness and just as little shirk on one side of the Mason and Dixon line as we need on the other. Now then, why not consider that and why not know that; since human need is a general need, we should get together to meet the demand.

You have heard co-operation urged until you just dream it. You go to one of these meetings. I have had to attend them from the Atlantic to the Pacific and from the border of Canada to the Gulf of Mexico, and hear it here and hear it there. At this meeting is one man I met in Canada and one I met in Atlanta, Ga. They were a long way apart, but together on that one idea of co-operation. But it is easy for the orator to feel it and mighty hard for the man sitting in the pew to carry into effect his ideas. Easy for that man to get up and say "do this" or "do that" and mighty hard for the other man to go home and do it. Easy for me to talk to a society of women and say to do this and do that, but it is hard for some member to go home with several children at her heels and follow any set rules for doing her housework. I expect I would do just like that woman, go six ways at once and wonder when night came what I had done.

Woman's work at best is in little things. It is up to the men to make the corporations, to run the government, to build states and roads, and houses and all that. And what does the woman do? I am going to come to my subject pretty soon, but I want to show you first the need of that organization.

The farmer goes into the field after breakfast—well, no, I will begin rather sooner. He gets up in the morning and goes out, has some fine Hereford cattle or registered hogs; he looks them over with pride; gives them their portion. The good wife has been up as long as he and she has measured out some other portion which is, perhaps, greater in riches, bless you, but she don't know much about that because it is not measured out in dollars and cents. And so she goes into the kitchen, cold and dreary some mornings, and the water was not hot, perhaps she did not even have a reservoir. So she had to go to the pump, twenty, thirty or forty steps away, and carry that water in to get breakfast. After breakfast the husband goes out and hooks up to a good team and goes to plow. A neighbor drives along, going to town, looks out and says, "a fine field, that ground of yours is plowing fine, good plow, too," and he admires his neighbor's team and good harness. The neighbor sees that.

But the good wife is in that kitchen and the neighbor doesn't see that; she is boiling beans for dinner, maybe a little pork, "getting ready for the men when they come in," and he returns to raise general trouble if dinner is not ready. You know and I know the hustle that goes on in the kitchen to have dinner ready so he doesn't have to wait. That is her ministry to him and his. He does the same thing at dinner. He goes out and don't even say: "Wife, that was a good dinner." He works all afternoon and the neighbor goes home from town and stops to talk during the afternoon. He says, "What a magnificent day's work you have done." And the good wife goes to bed the last one at night without a word of praise for her day's work. Got up in the morning and took down the dishes off the nice, clean shelves and he helped dirty them up. While the man went to the field she washed them and put them back in the same place. Noontime came and she took them down from their shelves; after dinner was over washed them and put them back in their places. Evening time came, and she takes them down for the third time during the day, and after the supper is over and he is through with his chores maybe she is putting them back just where they were.

Fall time comes, he sells a calf. What does she have for her dishes and work? Fall time comes and he sells his grain. What does she have for her cooking and steaming?

What do you have for the women in the house? It is mighty little, friends, for the woman. The woman don't do much! Oh, but she does! If you traded jobs with her you would say, like the old man in the little old doggerel, "I would rather follow the plow all day than to chase the speckled hen." We think it is a mighty little thing, but it has to be done. It is the tiny screw that holds the great belt in the big factory, but let the screw break and the whole machinery stops. The tiny screw is the woman in the kitchen with the little job here and another one there, but the boys are kept in clothes and the children kept in school, the cooking is done, the washing is done, and it is mother at the wheel that does the work. Not enough consideration is given her. No, there is not. Not enough done for her comfort. That woman does not sit down to consider; she has not the time; she has to work. She is not like the boy sitting down one day to whom it was said, "Get up and go to work. What are you sitting there for?" He said, "I have got to have time to figure." "Well, work while you figure." And he replied: "I tried that, but I got to get caught up with my figuring." The woman working in the kitchen don't often think things out. In fact, if she does, something is going to happen; the beans are going to burn or the chickens are going to get out. It breaks up the whole plan and she decides not to do it again. She does the best she can and feels more plainly than you that the best is poor enough.

Now, how is that to be bettered? How are the conditions going to be overcome? Folks, all the domestic science in the universe cannot keep dishwater from getting greasy or beans from burning. You will have a hard time if you are going to work out a whole family system in "yes" and "no" and in a definite outlined plan. Rather too many exceptions to the rule It is like the old Latin lesson, there are more exceptions than cases that follow the rule, and that is just as true in the home making as it is true in anything else.

We have decided in our state that if we could get the women to drop the work for a day, even if the men do come home to a cold supper once in a while, it is better than having the wife there all the time and never a smile and never a bright, happy thought in her mind, crowded down by the routine that has surrounded her until she is no longer the bright, cheery woman, but the tired, overworked, petulant mother with not time for a bright smile for her boy or girl or a real kind word for her husband. And maybe some very cross words for her husband, and I don't blame her for saying them at all. I believe I would do it myself. What time is given her? What time does she have to rest?

We started out by getting our women together just as often as we could. Side by side with the Farmers' Institute stands the Women's Institute of Oklahoma. Our membership is about three thousand more than that of the men. We started in with nothing; we went to the Legislature, and I think I am responsible in a small way for the legislation. The Speaker of the House is a very good friend of mine, a splendid fellow. He was busy and I had waited and waited to get an audience with him. Finally I said, "Mr. Durant, will you give me thirty minutes of your time between now and three o'clock Saturday evening?" That was Monday morning. He looked at me and said, "I will give you thirty minutes tonight." All right. I met him promptly at the time, was there waiting, in fact, because I did not want to miss the opportunity. Speaker Durant is an Indian, a Choctaw Indian, a prince of a fellow for all that. He came walking up and took out his watch and said, "You have just got thirty minutes, because I promised another party." I replied, "I don't want thirty minutes." He said, "You don't mean to say a woman can get through in less than thirty minutes?" He looked at me with surprise and I thought, Mister, I can say what I have to say in less time than that. And when I got through he took out his watch and said: "Bless your heart! you have just been fifteen minutes, and I am for the women." And he went from there over to the floor of the House, and when the bill came up Speaker Durant was on the floor of the House to defend it, and from that time our appropriation was assured and our movement has stood side by side with that of the men.

We have sufficient money on hand to put a trained nurse in the field to talk to our women and tell them things that they should know; and we have a professional dressmaker in the field and she teaches the women good dressmaking. We hope to so train our country women that it will no longer be said when they pass, "That is a country woman." Oh, how I hate that stigma!

Friends, I was born and raised on a farm and until three months ago never ordered groceries over a telephone in my life. I lived on a farm, as Mr. Emberson said, and I know how it feels to look different from the girls in town. I did not hate it when a child, but when I grew older I felt and saw the difference felt by every country girl in the universe. That line of demarcation is stronger than the Mason and Dixon line I have described, and it is up to you and me to rub it out. No difference in your girl and in the girl in the city or town. The difference is just in the little outside fixings. It is the paint on the house that distinguishes your house from your neighbor's, perhaps, or the way it is done. It does not change the home on the inside. The same thing is true with that girl's dress. The country girl asks her father for money to buy a lot of new trinkets. She gets a long line of ribbon tied round her for a sash, and it cost more than the city girl's dress, but the girl in the town had an opportunity to see things and work them out. Maybe she did not have so much money or could not afford it. She got a little plain street dress, but the girl in the town looked different from the girl in the country.

Those are some of the things we must consider; those are the problems we are putting before our women down in Oklahoma. About four months ago ended six "week schools" held in different parts of the state, where I had classes in dressmaking. The Singer Sewing Machine Company was willing to let me have machines for advertising, so I put a good plain dressmaker in charge, one that would talk good common sense to those women. We put twenty-five machines along in rows and two country women to every machine. We gave them lessons in plain dressmaking, including making of house dresses, children's clothes and men's shirts. We gave lessons in cutting and fitting, and every woman would watch as each dress was fitted. The classes ranged as high as two hundred and fifty trying to learn more of the things they had to do. They had been working at a disadvantage all their lives because they had had no chance to learn the best way of doing the work.

The state schools are closed to men and women, excepting on occasions like this, but the country is open and the homes are open, and I believe today the educational institutions should go to the men and women on the farm and give them a part of the education they are giving the boys and girls, and instead of educating the boys and girls away from the father and mother, educate the father and mother side by side with the boy and girl. Thus the family will go on as a unit and mature to a good old age. Why not do it?

That is how we began our organization. The people interested in the community development, the progressive citizens, all helped us out the best they could and we started this organization. We have between nine and ten thousand farm women today on our mailing list. I mean by that members who have paid their twenty-five cents a year, but they pay that into their own local treasury of the Farm Women's Institute and use that money as they see fit. More than nine thousand farm women today are having the bulletins and doing the work outlined in the course of study. They write to our office and say, "May we have a trained nurse on a certain day." I write back, "Can you guarantee a crowd? What arrangements can you make?" She must have a place to speak, a public place, not a private home, if we can help it, because they can come to us easier than we can go to them. I have seventy-six counties to look after and quite a few women. If I go into the home of one the homes of all the others are neglected, and maybe some woman does not know the lady at whose home the meeting is called and does not feel like going. I have my first time yet to go to an exclusive woman's club where the doors were not open and anyone permitted to come. The Woman's Institute is democratic as can be. Often I have men, women and children of the state who want to come. We have kept it open, and I hope it will always remain so.

We started out with yearbooks, outlining courses of study, including courses in foods and their preparation, making of garments, study of carpets and rugs, study of silverware. We had a special program on silverware, and I have had reports from almost hundreds of them in which those women had old spoons that their grandmother Smith had, or somebody else had, or a a set of knives and forks, and they went home and got those old things out and took a greater pride in them, in the things they had, because now they had some interest in them.

The country woman loves the bright colors. You can tell that by the sometimes gaudy wall paper and the large flowered rugs. They are not always there; I don't mean that, but you do not find the sober colors that you find in the city home. I want just here to make a distinction. Our country is graded by its mediocre, by the common run, and our city by its best.

You don't grade Columbia by the slums that are here, but grade it by the magnificent homes in your city; you do not grade your country excepting hit or miss. You will find that is done the universe over. And so when I say the city I do not mean your best or your poorest. When I speak of the country I mean the average country home, because the country averages much fairer than the city.

The country woman goes to the town and what does she do? You know you did the chores before you started; perhaps you go with her, and it is going to be supper time when you get home. She goes there and buys what she has to have and buys it in a hurry. She is not acquainted with the clerks; maybe she is a little afraid of them. They are not as kind to her as they might be and she buys the first thing she sees, perhaps, in order to get out and get away from there. She loves the beautiful, and she will buy, nine times out of ten, stronger colors than the woman who makes a study of those things. She wears brighter colors, and she ought not to do it. She does not study harmony because she does not have time, she thinks. And so we find those things with the country woman. They are just a part of her, not because of the difference in heart, but because of the difference in her environment; difference in her experience in buying, the difference in her time. The town woman goes down and looks around and goes home and thinks it over; goes to another store another day with another friend and gets the benefit of her remarks, and so perhaps it will be two or three or four weeks before she buys. But the country woman goes to town and finishes it up and goes home. Longing to have her home bright and pretty, she puts in the louder colors. Go to the dry goods stores and the paper stores here in your city and find where that man turns over and over until he comes to the paper that has black specks all over it and tells the woman that it is good kitchen paper because it don't show flyspecks. Putting a premium on dirt, but he does it. Have you not just as good a right to have a good kitchen as the woman in town? Why should the kitchen show flyspecks and the parlor not? But that sort of thing is done in every state in the Union, done every day of the world, and the country woman says: "I cannot help it; I cannot have things the way I want them, but I do the best I can." God bless her for it, but if she would only stop a while and wonder what is the limit to her best and then work toward that limit as fast as she can.

Another thing I want to speak about as one of the vital things in organization among country women is a rest room. Where do the women of the community surrounding Columbia rest when they come to town? Where are they? Where do you find them in your little town? Where do you rest when you go to town? You know you go to the grocery store and sell your butter and eggs, then you go to the dry goods store and get the rest of your supplies and you are ready to go home. Perhaps your husband is not yet ready. He meets some man and sits and talks; he could stand on the street corner, but you could not. The children cried at your skirts and you wanted to hurry away.

I made a special investigation in one of the leading towns of Oklahoma before I took any definite steps along this line. I went to the big dry goods stores. The women came in and went out, and for four months and one week, over seventeen weeks in all, I made the Saturday canvass in this town. I never saw the women stay in the dry goods store. Things were orderly there and they felt in the way, so they went and sat at the grocery store, where there were extra boxes to use for seats along the walk, where there were boxes piled and confusion reigned, and there were the women with the children and their lunch. I found them averaging nineteen women each week for the seventeen days that I had a definite account kept. Nineteen country women came to those stores each week and ate their lunches with their children.

What did it say to me? Definitely, that the purpose of the country women should be centered for one thing, on an organization for a rest room that was their own, where they could go when they came to town, could go and sit down and rest and feel things were comfortable, and more than that, that they belonged there. Today there are seventeen rest rooms in Oklahoma kept up by country women, furnished by country women, without any feeling that they are under obligations to the woman of the town. Seventeen towns have those rest rooms maintained for the country women, by those women themselves, but the city sisters are welcome. Often I go to them, and I want to tell you a story of one or two of those rest rooms. One of them has become a little market. A matron has charge. Over here is her butter stand, over there an egg stand, using these little dozen egg cartons, and those women of the town when they want good country butter no longer go to the grocery store for it, but go down to the place, and Mrs. Smith in the country no longer has to go to the back door, not because the city sister is better than she, but because she happens to live in town and don't want the groceries delivered at the front door. Mrs. Smith no longer goes to the back door of the city sister to leave the butter there, but the city sister goes and gets it. It is the same with the eggs. This is just a give and exchange from country woman to city woman, and with no feeling of timidity, no feeling on the part of the country women that they are not side by side and hand in hand with the women of the town.

And then we went to work on co-operative egg marketing last year among all these country women. A big commission merchant came to me one day and said, "Miss Mathews, I want to get hold of a good bunch of farm women in the country." I said, "What do you want?" He replied, "I want them to furnish country eggs and I want them to do certain things." I said, "You write that down on paper, not less than one page, in language which puts it out in good plain type, so that he who runs may read; tell them what you want done and what you will do for them if they do it, and I will get them to do it." He wrote it down. He said, "I will pay you a fair price. I can always pay as much and frequently more than your local market." He quoted the difference in prices at that time. He required that the eggs must be gathered twice a day. Remember we live far south and it gets mighty hot in August. The eggs were to be kept in a cool place and turned twice a week. They must be shipped at least once each week. Patrons must secure an egg stamp with name and number so the firm could know responsible parties. They must separate the cockerels from the flock so as to have no fertile eggs. Those are the things that were told to those women. I sent out ten thousand copies of that letter. I am not working for a commission house; I am working for the women of Oklahoma. I was out in one of the counties not long ago where a club of women were marketing their eggs in Oklahoma City at sixteen cents net. The rest of the women of Kiowa county were selling their eggs at Hobart for six cents a dozen. For instance, these women, the few of them that sent to Oklahoma City for sixteen cents a dozen, showed a difference of ten cents a dozen in their favor over the women who had not tried. One old lady expressed it very nicely when she said: "Some of us take care of our eggs and others take their carelessness to town and sell it for six cents a dozen." And it was pretty well put, I thought, "Took their carelessness to town."

I said to a groceryman, in order to thrash this out, "Would you pay more if you knew these eggs were fresh?" He used the argument, "We have to throw out so many and the commission house throws them back on us, we cannot pay more." All right. The women were justified in shipping their eggs out of their home town when the merchants would not do it. A man went into that community who said he could do it? He agreed to take only first-class eggs; he candled them under high power; tested them out, and handled in larger consignments. He certainly made money on it and the women got practically the same price that they had received without the trouble of having the general delivery. That is what Kiowa county, with an organization of nine hundred seventy-one farm women, is doing in co-operative marketing; just because they started at things definitely, and they are going to continue throughout the year, and going to continue to sell their industry in Oklahoma City and the other women can sell their carelessness at Hobart. That is how the thing is finally going to bring itself about. Those possibilities are in your community and they are in mine; they are in every community.

What I want to say to you is, go home to your community, talk with your wife about what you can do; if she is here, I am as proud as you that she is here; if she is there, won't you please bring her next year. If you cannot both come, the two of you stay at home and save up money in the old stocking and "pig bank" to come the next year. Bring her one year, or you come one year and let her come the next. You will both get good ideas—and friends, it is worth the trouble. It brightens your life and helps more than you know. Success in farm life is not solved in dollars and cents so much as in hearts and smiles. That means more to us than thoroughbred stock. Go home and decide to do something good. Put a rural library into the little school. You can get a few women together for a sewing school and really talk things over, really get something in their homes. Men, will you go home with the idea that woman's work is a narrow work and you her horizon? Oh, she lives only to please the man she loves! She will do more for praises than for your money. Be as generous as you can with that. It doesn't cost you anything. Tell her when she has done something well and see the happy smile coming on that old face. I know it, I know it, friends. I cannot tell you what I would because my father is sitting here today, but for thirty years I have seen it. Every day he has done it, pulled her chair back from the table at noon time and said, "Mamma, you ought to take a nap," and she has always said, "I am not sleepy." And he has always said, "I know, but mamma, you ought to take a nap." My mother today at sixty looks forty-five, with scarcely a gray hair in her head; she has lived on the farm from the moment she drew her first breath, and when they talk of leaving it tears come to both their eyes and they say, "We cannot do it." Every tree planted there is dear to them. Even our Christmas trees were planted there and have grown to large trees. Every day mamma's chair has been pulled back, she has just a little of the woman's contrariness in her—at least, they accuse us of having it—she has always said, "I am not sleepy, I am going to work down the bread or going to do something else." Every day I have seen him help her—she doesn't need any help, but she enjoys it. Sometimes we appreciate the things we do not need to have more than the things we have to have. She has gone to take her nap every day, and at sixty she is still young. You ought to gladly give your wife that noon nap. Tell her to get her bonnet and go with you to see that new calf or something else; let her see that there is a hemisphere, a whole universe outside of her kitchen wall. Do that much for the country woman. Give her her organization and your kind smile and the farm women will be happier than those of any other part of the universe.

With one little illustration I will close. I want to say to the fathers, do the best you can for your wife and for farm women in general. I want to say to you, pay your wife with a smile, with a kind word. How long since you have really told her she has got a good dinner? How long since you leaned back and said: "Wife, that sure was some dinner." Don't you know that you could not give her a check on a bank that would bring her as much happiness? How long since you have really said something good? But oh, look out! How long since you have told her it was bad? So easy to find fault and so hard to praise! So often we grumble and growl, so seldom we say the kind thing. Go home and try it. Try a little bit of that kind of treatment and see how it works. Go to the ditch with your wife if you have to, but try to keep both of you out. Don't be like the old man who had just a little too much of "Blue Ribbon" and whose friend was in the same condition. In walking home one of them slipped into the ditch and as he looked up he said: "Bill, come and help me out." In a maudlin way his friend said, "Well, I can't help you out, but just to show you I am a good fellow I'll get in with you." Now don't do that. Don't get in with her; get her out. Brighten up, keep her in touch with the world outside, give her a little trip, if only to a neighboring town; let her take her time and help her; she will appreciate it. Stay by the boys and girls. Make them feel they are comrades with you instead of wards of yours; make them feel you have a great big, brotherly interest in them instead of just the supervision of a father? Why, it goes so much farther and is worth so much more to the lad and the lass than that other. I wish we might brighten up a little. I wish you might see with me this picture out on the canvas. It was drawn by a cartoonist. A picture of a dollar, "the American God." The picture of the dollar was blurred. In an instant the face of a young boy was shown; he was at his desk and his hand was on the pen and then the lines in his face hardened, the lines in his hand grew rigid and the bag of gold began to grow, and as it grew the lines in his face grew harder and harder. Yet he became an old man and, needless to tell you, a miser. And over here was another dollar and it was blurred, and the same young man was shown. The lines in his face did not grow so hard; the bag of money was never so large; but the picture of a young girl came in at the side and over the desk, and then came the father and mother, and the little ones about. The money bag was never large and the lines on the face were never hard. And then the little home seemed to come as if by magic on the canvas, the old cabin, a little hill, a stream and rustic bridge, and over there the sun was setting. Down the hill went the bent old man and woman each supporting the other as, arm in arm, they went from the old homestead over the bridge and into the sunset land together.

It is when our womanhood shall have awakened to the highest possibilities and our manhood has learned the true estimate of little kindnesses our homes will be happy homes, pictures of rural content and sweet living; then you will see scattered over our state from border to border thousands of happy homes, happy in the first great gladness that comes with the new home, happy in the sunset hour, as pictured by the little poem of Lewis':

THE HOUSE IN THE MEADOW.

It stands in a sunny meadow
A house so mossy and brown,
With its cumbrous old stone chimneys
And the gray roof sloping down.

The trees fold their green arms round it,
The trees a century old,
And the winds go chanting through them
And the sunbeams sift their gold.

The cowslips spring in the meadow,
The roses bloom on the hill,
And beside the brook in the pasture
The herds go feeding at will.

Within in the wide old kitchen
The old folks sit in the sun
That creeps through the sheltering woodbine,
When the day is almost done.

Their children grew and left them,
They sit in the sun alone,
And the old wife's ears are failing
As she harks to the well-known tune.

That won her heart in her girlhood
And has soothed her through many a care,
And praises her now for the brightness
Her old face used to wear.

She thinks again of her bridal
How, dressed in her robe of white,
She stood by her gay young lover
In the morning's rosy light.

The morning is rosy as ever,
But the rose from her cheek has fled,
The sunshine still is golden,
But it falls on a silvered head.

And the girlhood's dreams once vanished
Come back in her winter's prime
Till her feebler pulses tremble
With a love that outlasted time.

And looking forth from the window
She thinks how the trees have grown
Since, clad in her bridal whiteness,
She crossed the old doorstone.

Tho' dimmed her eyes bright azure
And dimmed her hairs young gold,
The love in her girlhood plighted
Has neither grown dim nor old.

Perhaps in that miracle country
They will give her lost youth back
And the flowers of the vanished springtime
Will bloom in the spirits track.

One draught from the living waters
Shall call back his manhood's prime,
And eternal years shall measure
A love that outlasted time.

THE CHURCH IN COUNTRY LIFE DEVELOPMENT.

(Rev. C. R. Green, Ravenwood, Mo.)

Rev. C. R. Green.

Friends, the story that I have to tell you this afternoon is a very simple one. It is so simple that it is fully within the province of each representative to realize the values contained in it. I shall endeavor to keep well within the request of the management when writing to me. Somehow—I don't know why—the management seemed to be a little suspicious of the ministry, reserving the right to dictate the bounds of our speech, no doubt being influenced by the fact that we have the name of being considerably long on theory. Hence I was requested to deal in the realm of fact rather than theory.

So this afternoon it is my earnest desire to speak from demonstrated fact, of the things that I have seen and realized in my own experience. I have no apology to offer for the relation which I sustain to the subject that I shall discuss, because it is no egotism for a person to feel assurance in a known fact though he, himself, might in a measure have demonstrated the fact. Therefore I desire that you divorce my personality from the story and get the concrete facts as if they were applied to your own community. I beg of you that you do this, because the story that I have to give is not a story that can be accomplished only by one person in one place, but I am convinced that it can be realized in the average community by proper leadership.

There is a Place in the Scheme of Things, in Country Life Development, for the Church.—The church in the open country and its place in the development of country life with me has passed the experimental stage, so much so, at any rate, that I regard that the church has a place in the scheme of things for the development of country life, just as much as any other factor or force. I realize that there are many forces entering into the development of country life. The civil engineer occupies a prominent place as he comes out into the country and shows how we can grade our roads, how we can build our bridges, how to do this, that and the other that pertains to the development of our roads, so that country people can get to places where they want to go. I emphasize this as a splendid factor in the development of country life.

I realize that the man who comes into our midst and preaches the analyses of soil and plant cultivation, and demonstrates to us the need and the benefits of such work so that we can make our acres produce much more is doing a great work in the development of country life. There is also the man who comes into our midst and teaches us how we can mate this conformation with that conformation, resulting in animals better fitted for the ends desired. I accord to that man an equally effective place in the building of a better country life. While all this is true, I want to make this emphasis at this time, that the country church occupies just as prominent place in the development of country life as any of these factors, and the country preacher who is on his job should proudly take his place with these other leaders. How did I come to be interested in the country church? Perhaps the fundamental reason is because my natural sympathy is with country people. I was reared on the farm along with the eighty-five out of every one hundred preachers that today are exponents of the Gospel. Naturally, my early training and association taught me to be deeply sympathetic with country people and their institutions. I have served as pastor in two different towns, one a village, another a small city, and among other problems in these places I found that one fundamental difficulty was very much in evidence. I refer to the relative overlapping of territory in church economics or the over-churched town.

The first town referred to was just a small village. There were two churches in that village of one hundred and fifty souls. The next village, or small city rather, was a town of just a little less than a thousand, and there were five churches in that city, all trying to maintain pastors. Now I believe that no pastor can successfully build up his church where such conditions prevail and keep his best manhood. I cannot give my services and no other man can give his services under like conditions and retain the high ideals of service that his profession has taught. There were times under such administration as this that I felt in building up my own church that I was the loser in moral life. I felt that I was building at the expense of some one else and that the community was none the better for my service.

Further, I recognize that there are two fundamental problems confronting our civilization, namely: country life organization and municipal reform, and in the solution of these problems largely rests the progress of our country as a force for civilization. I further consider that to be a party in solution of either phase of this problem is no mean life task. And when the task is completed I am sure that honors will be duly given the men who serve in either phase of this problem.

The cities are awake. Read the history of commission government, of the municipal expert, and of the continued struggle with vice. These are proof positive that the city is awake to her part of the great solution both from an economic and moral viewpoint.

I am happy to say that the country is no less awake to her part of the work to be done. We are engaging just as intelli-

Harmony Church. It plays an important part in country life development.

gently in the onslaught on economic and moral country conditions as the cities are, and there are just as marked changes for a better and happier society over the country field as over the municipal field.

Our Plant.—Five years ago I came to the church which I serve. My coming was in obedience to an urgent call from the president of the district and from the congregation. When I looked the field over I found a very good church building. I also found a parsonage just adjacent to the church, but not in nearly so good a condition. The weeds had grown up about it so that it was hardly to be seen from the road, which was just a few yards away. I accepted this place as not only a field of opportunity, but as a call to a new service as well. This (indicating picture on the screen) represents very nicely our church. This building was the realization of the efforts of a predecessor, a man who some years ago, by the co-operation of a certain progressive element of the community, built and paid for it. But that church had gone nearly two years without a pastor preceding my coming to it. There had not been a Sunday school for some time (just how long I am unable to state), and other phases of the church life were running in the same ratio.

This (indicating picture) is the parsonage as it is now. When I first came to this place the parsonage was much smaller, but the people have added to it and beautified the grounds until it has become a very comfortable place for us to live. Now, other than this plant (the church and the parsonage just shown), this place was just like average country churches. I want to show you a picture of an abandoned church that I know of situated in the open country. It stands there, an eyesore to the community. Services are held only occasionally, as some one comes along and preaches to the people. There is nothing here that anyone can take pride in, and the sad thing about it is that there are hundreds and thousands of just such churches dotted here and there over the country.

When I began this work I fixed definitely in my mind this idea: *There are enough Christians in every community to properly support a Christian institution in their midst—if they are Christian enough.* I hope that you will read that thoughtfully—if there are Christians enough.

It was to be my work to correlate these Christians and bring them together so that they would, unitedly, support the enterprises of the church. In this I had great satisfaction, in that I

A deserted church.

found most of the people open-minded. A great many were willing to enter at once into active work for the betterment of the community, and while our church is known as a Methodist Church we have as many Baptists and Presbyterians in our church as we have Methodists—in fact, the majority lies that way. The reason that this community church is Methodist is because this was the established church in the community. Therefore we did the only rational thing—we used the institution that we already had to work with. I feel with considerable satisfaction this success. But, of course, you know there were some who would not do it—you find folks like that—and they said "No, we cannot do that; that church would be all right if it were our kind." They were not willing to co-operate or correlate their interests with us. I did not consider this as defeat, for don't you know I am just optimistic enough to concede that these people serve a good purpose, because some of us, you know, get into the altitude of the clouds and we need something to keep us down to earth, and these people serve that purpose.

Now in this community service, when a church's good intentions become known you may lose a certain element of the Christian people who are not broad enough to realize the importance of the situation, but the church is not the loser. This is true because, on the other hand, you know that in every community there are large numbers of people, splendid citizens, men and women who are not allied with any church, and just as soon as a church comes into a community and shows that it is working for the uplift of that community, and that its enterprises are for the betterment of the community and working on a broad expansive plan, you are going to at once get the attention of those people. This has resulted in some of our very best support coming from that class.

The Community Idea.—The community idea should be made a very definite thing. It should have a very definite place in community life development. I emphasize the importance of having a plat and a survey of the community. This is very necessary, very important. I would just like to dwell on this plat of our community as I have it drawn (indicating picture). It would be hard for me to tell you how much I realize on this plat, what it means to me and what it has meant to me in my working to develop this place. In the center (referring to plat) you see the church; all of these dots over the plat represent homes and the schoolhouses.

Do you know what that plat teaches me? It has put me so in touch with these folks that I know a great deal more about them than they think I do. I have learned to be so close to them that I know their financial and economic standing as well as their religious leanings—even know their politics. I have learned to know whether they are interested in the public roads and in the development of public roads, learned to know whether or not they are interested in good schools, and learned many other things surrounding their lives. I keep a card index of every man, woman and child in this plat, and this card index is a source of knowledge to me in doing the work while I am at this place.

Another thing you will notice on this plat, and it has taught me an economical fact. At the top of our plat you see that section lying on the north. There is a section that absolutely contributes nothing to our community, excepting the school tax and the road tax. There is not a home, you notice, in that section—not one home. This fact has taught me to know who is supporting and who is not supporting the enterprises of the community.

My experience has taught me this: *That the open country should be for country folks.* Now then, what we are wanting to develop in country life, or from the country life development standpoint, is not the large farmer or the large farm, but we want the eighty-acres; we want the one hundred and twenty acres, and the one hundred and sixty acres. We want a community like that (indicating plat), dotted all about by homes and home-loving, home-owning people—people interested in the community, people who can see that, they can correlate their interests and work definitely for the betterment of the community. On the other hand, I want to say that one of the most sorrowful things that can come into a community is for that community to become largely owned by the absentee landlord, because *absentee landlordism has as its result personal gain by exploiting the community.* I am not taking somebody else's doctrine. I am giving that which I have observed from my own experience, and it is this: They take from the community and do not put anything back. They are constantly living on the co-operation of this home-owning people and on the losses of the tenant. They do worse than that. When by the co-operation of the home people of the community, because of their work in community building, the lands increase in value, the absentee landlord draws his share without participating whatever in the community upbuilding, without any energy expended. He does that, and worse. As land values advance, this absentee landlord raises his rentals on his lands and draws another very large increase in that way on his investment. Thus he partakes of the benefits of society without participating in the improvement. This is wrong, both ethically and economically—not to say that is discouraging to the community builder.

But fortunately all absentee landlords are not like that. We have in our community two classes or grades of absentee landlords. One is the business man who lives in town and operates farms because of the recreation or pleasure he derives from them as well as for the income he receives. These have proved that they stand well abreast with the community in the development idea. They keep up homes, good homes. Here is one of them (indicating picture). This man is constantly spending money in the development of his farm. He takes pleasure in it, and he tells me he is getting profit from it as well. Here is another illustration of the same fact. We believe in everything good in community development –even the Missouri mule (showing picture). These are pictures taken from the farms of these business men.

On the other hand, the worst enemy I find in this landlord business, the absentee landlord (now listen; I may hurt some of you farmers here, but it is true), is the farmer who owned a farm, moved away, retired, but kept the farm as an investment. That man—it is my experience of five years spent in this community—pays absolutely nothing back into the community. He goes away, receives a rental, lets the premises go down, doesn't look at it like the business man, from the business standpoint. Here is one such place (indicating picture). That man ought to have at heart the community's interest, ought to have sympathy with it, yet look at the condition prevailing. It is an eyesore to our community, and we cannot help it.

Now these emphasize this idea: Do you think that in beautifying a community you stimulate boys and girls to develop higher ideals of life? I want you to think about that, you who have farms in somebody's community where they are trying to build up and make life better. In the name of sense and all that is decent and right, you ought to contribute to the support of that community and keep up the premises in the way they ought to be; it is only right.

The Morton home, a model 80-acre farm, Harmony community.

I want to emphasize the small farm and farm owner. In our community at present we have a predominance of small farms—the 80-acre, the 120-acre and the 160-acre farm. I also want to say that these farms are the very best improved in our community. Some people think that you cannot improve the farm and keep to the eighty, one hundred and twenty and one hundred and sixty acres. This is not true, as evidenced in our own community. The very best improvements we have in our community are on the smaller farms. By more careful handling of the soil, more intensive methods, by using your brain power as well as muscles, you can develop the smaller possessions as much as those who hold the larger tracts can develop theirs.

These (showing slides) well improved, small farms have taught us this fact—*all processes of education should be to fit men not merely to make a living but to live.*

The Community Spirit.—I want to talk to you about community spirit. When I first came to this place there was no one especially proud of the community. They were not conscious of any particular reason why they should be proud to live there. People were proud of their homes; people were glad to talk to you about their homes and show you the pleasant features about them, but those were individual ties, and it was simply an expression of individual pride. But from the community idea there was no particularly expressed pride. This has been changed. Now even the children know they are proud of the community. Why? It all comes because we have a splendid community spirit. There are a number of our people who own automobiles and, whenever they go to town, carry pennants bearing the word "Harmony." Thus the community is well advertised.

Notwithstanding our new church building, the attendance at church was not nearly so large as it ought to be. Often it would be but twenty, sometimes forty, which would be a splendid crowd. The people said to me that since they had built the church they had never been able to get many to attend. It seemed as though building that church had crushed the spirit out of the people and they would not attend. I began to reason. While they had perhaps been getting poor service, I could not lay all to that source. I felt that more people should attend regularly. In studying the matter over my attention was called to our road system. Our roads were very bad. At times they were in such condition that the people could not get anywhere. I figure that it was quite impossible for people to come to church under such circumstances. I noticed that after a rain it required more than normal interest in the church and religion to get them to attend. Then when I realized that the people came two and one-half miles, even four miles, I saw the reason why a great many did not get to church.

So I turned my attention to the road problem. This was a much larger problem than I thought it was. In the first place, I did not know much about it. I attended every road meeting within reach to hear lectures on good roads, got all the literature I could get, read about good roads, and sought in every way to inform myself upon the road problem, how to make better constructed roads and how to improve the system. I found by a certain amount of expenditure we could greatly improve our roads, but also found that the money was not in the hands of the board. So it became necessary to find other means. We had a roads meeting, the purpose of which was to get the men of the neighborhood together, and, after talking the matter over, we asked for volunteers for road work. We got sufficient volunteers to grade our road from the church two and one-half miles in one direction and four miles in another on the main roads. This made it possible for any one living in the extreme part of the community to get to a well graded road without going through very much bad road. We soon saw the logic and truth of our reasoning, because at once we found that our church took on new life and many more people attended the church services than had previously.

Team work and road work in the Harmony community.

The next thing we did was to drag our roads. These main roads were kept well dragged over the distances mentioned. This (indicating picture) is a bunch of our boys doing road dragging. Thus, with the road drags we have in our community, the roads are assuming a very credible condition. Since we have graded these main roads we have been working on others, and now have a fairly good system.

Our Bridges.—Our bridges were in very bad condition, and many of them had to be rebuilt. This (picture) is a bridge that is built of cement. It is a structure that appeals very forcibly to us as efficient for practical purposes. The highway engineer of our county told me that in using this bridge he cut down two hundred and eighty-five feet of bridge maintenance this last year—a very hopeful thing, because bridge maintenance is one of the large items in road expenses. It has been our policy to put in cement bridges wherever possible. In a good many instances the township board furnished the cement and we donated the labor. By so doing we have been able to get a good many cement bridges in our community. We have used some steel tubes with cement ends, and they have served the purpose for the shallow bridge. The contest for the Saint's Trail stirred our community with no little enthusiasm, as the towns along the route were contesting for this highway. We got in the contest, too—just foolish enough to think because other folks did we had the same right. After considerable work we were able to land something like twenty-six miles of this highway, and this (showing picture) is one of the scenes in our community.

I want to say a thing regarding our Federal and State authorities in connection with their attitude of helpfulness to the country folk. We have never asked for a thing from them but what they gave it to us, if possible. I want to commend them for the kindness and willingness which they have exhibited towards helping us in our difficulties. I wrote to Washington and asked for some help, and the government sent me the senior highway engineer, Mr. Heidel. He came to our community, traveled over our roads, studied their physical condition and made a survey of them, then he gave us a lecture and told us just what we needed to do for the roads. So he helped us very much indeed. The county engineer gave us of his time and advice; also gave us much encouragement. This, in my judgment, is the proper attitude to be assumed by these authorities, because *the rural development idea should not carry with it* *that idea which pauperizes, but that help which visionizes the community.*

Organized Social Activity.—Organization for social reaction is a thing necessary in every community, and it is one of the things that we lack very materially in the open country. If you want to develop leadership it is absolutely necessary to have social reaction, and that is why more leaders come from the city and centers of population than from rural districts.

I conceived the idea that we might have a home-coming day. Four years ago last June we held our first. My primary idea, of course, was to get all the people who once lived here and have them meet in a splendid, social time. We have this on Sunday; we have in the morning Sunday school and after the Sunday school a sermon. Then we have a community dinner together. In the afternoon we have men to speak on current events, on country life development and agricultural problems, giving time for short talks from the old residents. This was our first and there were about six hundred people present, and during the years they have increased in this ratio: the first year, six hundred; second year, eight hundred, third year, eleven hundred, and this last year we had fifteen hundred people. This shows the popularity of it.

"We organized a band and it has made good."

Our Band.—We organized a band. This was done primarily to supply social reaction for our young men, and that band has made good. Now, this is not the kind of a country band you folks think of; I know what you are thinking about—"Old Black Joe," "Annie Laurie" and some of those things, but it is not that kind of a band. This band played for a neighboring town chautauqua and did credit to themselves and to their management, and yet every one of the boys does regular work on the farm.

We organized our young men into an organization similar to the Baracca class organization in the Sunday school. We have in that organization at present forty-nine young men. There is never a thing in the community needed at the present time, no matter what it is, but that you will find this class not only enthusiastically working for it, but also you will find them as the very leaders in its realization (picture). This organization is well supported by another organization that we could not possibly have the young men organized without, and that is we have an organization of the young ladies of the community (picture). There are thirty-seven in this organization. These young ladies and young men take month about having social entertainments; they serve lunch and render programs, each trying to outdo the other, and in this way have aroused a great

Young Ladies' Society, Harmony Church.

deal of enthusiasm. These classes repainted the parsonage and built a cement walk entirely around the church and out to the road, beautified the grounds, the whole improvement costing a little less than three hundred dollars. And they paid for it themselves.

Our Sports.—We believe in plenty of good, clean, healthful sport. This (indicating picture) shows our baseball team. I have to differ with the man who scouts at the idea of a place for sports in the life of the average young farmer. We have in this group some boys who own eighty acres of land and properly care for it, and are making money on it, and are some of the best citizens we have in our community—yet they are enthusiastic baseball boys. I have in mind a young man whose father was paying out over one hundred dollars in livery bills each year in a certain city in this State, and it seemed that young man was doomed. He had just got started with the wrong bunch, but had not gone so far that he was lost. We secured his interest in sports. That young man is safe today, and baseball and the societies have done more toward it than my preaching. Now this ball team is not "countryfied," either. They belong to the Maryville Baseball League; we go down and play with

"We believe in plenty of good, clean, healthful sports."

those churches and get beat sometimes, and on the other hand, we win sometimes. Our boys make hay and do those things which are necessary in harvest time as well.

We have made our Thanksgiving Day service an annual affair, too. We meet together Thanksgiving Day, have a service in the morning and eat our dinner in the basement of the church (this illustrates our gathering last Thanksgiving. Picture). We have just a jolly good time together, just like one family. In the afternoon the men have a trap shoot. See the trap here (picture).

Our Lectures.—We regard these lectures as one of the very beneficial things in the promotion of a better country life. Young men and young women must be entertained. It is the duty of society to see that the entertainment offered is wholesome and the very best, and if you properly provide for them you have done a splendid service. Oh, get big enough! Don't have that narrow opinion so many have regarding these things. Now we have found this: *That there is no thing that comes ever so high but that the country people can have it, provided they want it badly enough.*

The problem we have confronting us at the present time is the problem of better schools. We have in our community six schoolhouses just like this (picture)—six schoolhouses scattered

Trap shooting, Thanksgiving Day, Harmony Church.

over the community, and any one would represent appearances in all. There is not a tree about them that I know of, nothing there to beautify the grounds or to make them attractive. One school has seven scholars in it maintaining a teacher at fifty dollars per month. You see it is wrong economically as well as lacking in efficiency. We have a proposition for a consolidated high school which will be adjacent to our church. Of course, we have some opposition in this, the same that has run all along throughout this development period, but we are hopeful that we shall realize our desire.

The next thing of which we desire to speak is regarding co-operation. There is a twofold duty between the church and the community in country life development—a twofold duty, a twofold responsibility. Now the church owes the community a real service and in turn the community owes the church cooperation and support. One of these cannot possibly divorce the responsibility which she has in this development process, because their responsibility is coequal.

The Church's Debt to the Community.—It owes the community a resident pastor efficient in service that is peculiar to country conditions. I want to say a word regarding our theological seminaries. Don't you know our theological seminaries are turning out young men to fill the position of the minister in these communities who are just like people have learned to suspect, long on theory but deficient in practical understanding of the needs of men. There are, no doubt, many of them, as has been suggested, know very little about geography—"this side of Jordan." These kind of young men turned out of theological schools and sent out into the country only make bad matters worse. This is especially true unless they have a superabundance of wisdom and intelligence. In this our theological schools err. I believe our theological schools ought to add to their curriculum a course of lectures on agriculture. I believe this especially for young men fitting themselves to become country ministers, because in doing this they would prepare a man's sympathies for the country people and their problems and enable him to help them. If I were to choose in expertness or working knowledge in the country minister I would say, *give him a working knowledge of biblical theology but an expert knowledge of country conditions, needs and reforms.*

Here is a very sad thing that has come under my observation in rural church economics. It sometimes happens that I go into a little town on Saturday. In the afternoon when the train comes in I see a fellow come in with a long coat and a high satchel and step off the train; he shakes hands with everybody on the platform and inquires how things have been going since he was last here—about two weeks or a month before. Well, that is a preacher. I believe this is one of the saddest things in our rural church work. I believe that it is doing more to keep the churches of the small towns and country communities, the church people, Christian people, from getting together, and it is also widening the gap that is already existing between them. Why? A preacher is a man and is like other men; he has to have a job, and if he comes into that town to serve a little church on one Sunday a month he has to preach a whole lot of denominationalism to those people to hold his job. If he did not some would say that the town had another fellow preaching about like that, and so would want only one man. But by talking denominationalism and all the other "isms" belonging to this particular sect, don't you see it keeps up a strained condition and keeps the neighbor from getting in touch with his neighbors in spiritual matters. This teaches me this fact: *The most insidious enemy to country life development maintained by the church is the non-resident minister. The man may be all right, but the system is all wrong.* I cannot get anywhere with that kind of a system. Churches that are served in this fashion do not flourish, do not grow.

The Community's Obligation to the Church.—On the other hand, the people of the community owe to the church a united support. One of the things to speak of particularly is that you owe a maintenance, a decent maintenance, to your pastor. Don't call a man into your midst and then starve him out and expect good work. It has been said that the farmer is a stingy man. I would not say that of all farmers. I have a great deal better opinion of farmers than that. I believe the farmer is a careful business man; he has to be careful because of the livelihood he has to get out of the soil and because of the conditions prevailing about him, and sometimes he has a narrow view of things. But on the other hand, I insist that the farmer owes the pastor who comes into his community and builds up an institution of good in that community at least a decent maintenance. If you want the pastor to be a man treat him as a man and do not pay him a smaller salary, as in some instances you do, than the hired man is getting on the farm. Don't do that, because it is absolutely necessary that he be free of financial encumbrance if he is to give his best service. Co-operate with your pastor, take an interest in your community, help your church, help your church to work with you, stand for all that is good, uplifting and helpful in your community.

CHURCH ADMINISTRATION.

(Rev. Matthew B. McNutt, Glen Ellyn, Ill.)

Rev. M. B. McNutt.

On the way down here I heard a conversation between two farmers on the way to the conference, and one said, "Where are you going?" "Going to Columbia." The other said, "Pretty good place to go, isn't it?" "Yes," he said, "Indeed it is." And I feel that way myself. I find the farmers feel that way.

It was my pleasure to speak here last year at one of the gatherings. I am sure that I enjoyed it very much, and I learned a great deal. I like to come back here to speak, not so much for what I may be able to give to the conference and to the farmers of Missouri, but for what I may be able to get.

It was my privilege to serve a typical rural church for a period of twelve years, and for the last two years it has been my privilege to visit hundreds of rural and village churches, and as near as I can see from my study of the rural church, the thing that is lacking the most is administration.

I find that there are many rural fields, communities where there are abundant resources in both men and material to make a good, strong church. If there was only more attention given to administration. I find in a great many instances where the rural pastor is trying to do it all. He must, instead, try to train leadership in the community to carry on the work.

Now the country church is one of the great factors in bringing about a more satisfying social condition in the country, and I am sure that when we have the country church performing its function regarding the community every other institution that has anything to do with the welfare of the country people will also help. I believe that we are making progress in the country life movement, and one of the evidences of it is the change of sentiment in regard to the country and also in regard to farmers and farming as a business.

Farming used to be looked upon as rather a poor business, and it is not any too good yet, in spite of the period of the high cost of living which we are passing through, in spite of the fact that a good many people think that the farmer is above the bondholder—that he is "in clover."

We heard a good deal in times past of the farmers in the light of "buckwheat" and "corn cracker" and ground "hopper" and "hayseed," and the like of that; I have been called all of those beautiful names, until the word country has become in past days—not so much now—a synonym for awkwardness and rudeness. It used to be, if we saw anything in the newspapers or magazines about the country folk or about the farmers, it was either in the funny column or in the cartoon. We all recall the pictures of a farmer as portrayed by the cartoonist. He was always the man with the overalls or cotton jeans, rawhide boots and pants inside of his boots, and whiskers and broad-brimmed hat and long hair, and I presume you will recall instances in the funny column of the newspaper. I recall one just now that was a type of what we have often heard which I read not very long ago.

A farmer of this type came to town one day on business and was spied by a town boy who thought that it was an opportunity to have some fun at the farmer's expense. So he stepped up to him and he said, "Hello, Mister; what time is it?" The farmer pulled his watch out of his pocket and said, "Ten minutes to nine, my lad." The boy says, "When it comes nine o'clock you go into the barber shop and get your hair cut." Of course, that made the farmer angry and he took after the lad as fast as he could run. The boy turned the first street corner he came to and, in the farmer's efforts to turn the corner, he ran into a policeman, and the policeman grabbed hold of him and asked him, "What's up?" And he said all this that I have said about the boy. Well, the farmer said, "I saw a town boy up the street here and he asked me the time of day, and I told him ten minutes to nine, and then he had the impudence to tell me when it came nine o'clock I should go into a barber shop and get my hair cut." The policeman said, "What you running for? You got eight minutes yet."

And the country papers have come in, too, for their share of this fun. It was only a year ago last summer when they were holding an institute over at Lansing Agricultural College. I got into the city the night before institute began. I picked up one of the daily papers at the hotel and in great headlines there was the following: "The country parsons of the State of Michigan have come together to consider seriously the problem of making a living. They will consider poultry raising and horticulture as lucrative side lines. They think it too much of a comedown from painting mansions in the sky on Sunday to painting barns on week days."

I put the newspaper in my pocket and went to the conference, and I read those lines to those men, sixty rural parsons, that had come together to study. "Now," I said, "How many of you brethren have come here to consider seriously the problem of making a living out of horticulture and poultry raising as lucrative side lines?" Well, of course, we all had a good laugh and there were no less than half a dozen newspaper reporters from Grand Rapids and Detroit and the principal cities of Michigan, and by the looks of them they had come there to have a good time at the expense of the country parsons, but they reported the conference in a good way, faithfully, and there was no more poking fun at country people or at the rural parson.

It is getting so now you can hardly tell a country audience from a city audience in the matter of dress and looks. I have a good deal of trouble now distinguishing or telling the farmers from the ministers. I was attending a rural conference recently and there were supposed to be some farmers there as well as preachers, and I stepped up to a well-dressed looking man and I asked him if he was a minister. "No," he said, "I am a farmer." Then I stepped up to another well-dressed looking man and asked him if he was a farmer. And he said, "No, I am a minister." Just on the way over here I took an editor for a farmer, and this is hopeful.

Every once in a while at one of the conferences a good, well-dressed farmer, intelligent, gets up and commences to speak, and almost invariably he begins his introduction with an apology that he is only a farmer, and that there is not much expected of him. Now it is about time we country people quit depreciating our own business and began to glorify it. I think that we are responsible ourselves for this attitude that has been taken against country life and against farming as a business in the years gone by. For instance, I have heard some father on the farm talk like this, "Our John don't care for books or college; he is going to be our farmer," just as if it did not take brains to farm. I have heard country mothers go on and sputter that after they had educated their daughters and given them an opportunity to learn music "They up and married a farmer," as they said, as if a farmer's wife had not as good a right to have a good education as a minister's wife or a banker's or a business man's, or any other man's wife. But there has been a great change of sentiment with respect to country life and with reference to farming as a business, and this is a very hopeful sign. I am sure that we have seen more about the farmer in the newspapers and magazines, the great dailies, too, and the great magazines in the last five years than we saw in the last twenty-five before, and it has not by any means been in the funny column or in the cartoon.

Now as to country church administration. I want to speak first of the church platform or the program of the country church. You know when political parties are preparing to combat they set forth a statement of the principles which they stand for in the form of a platform. What is the platform or program of the country church? I am inclined to think that the platform of the country church needs to be enlarged a good deal from what it has been in the past. We used to think of religion altogether as a sort of Sunday institution. We did not think of it so much in terms of everyday life. But there has been a great change in the last few years in regard to the conception or field of religion. Religion is coming to be a movement that pertains to daily life. It is a great mistake to divorce religion from politics or from the business of life.

The function of the church is to preach the Gospel of Jesus Christ in the world and call men to repentance and prevail upon them to accept the Gospel of Christ, and also the principles that Christ has brought to the world, the principles of life. We must not confuse the function of the church with its sphere; the sphere of the church must extend to every department that concerns the welfare of human beings, the department of home and the school and of the community. It must take its message, the message and the laws which apply to service and to right living, and apply them to every relief of man. And it is high time today in the country that we correlate with the different churches. There is too much working separately. It is a problem big enough, I am sure, for all the institutions that have anything to do with the country people. The churches themselves must get together, in the first place. There is a great deal of overlapping, and there is some overlooking, too, as well as overlapping. If the church cannot be the leader in the community it cannot be the source of inspiration that it ought to be in all of these various lines and institutions until the church becomes modern in itself, have good business and have brotherhood and have co-operation.

It is the function of the church rather to inspire. For instance, the citizens perform their function as citizens in producing good government. It is not the business of the church to teach farming, scientific agriculture, but to inspire the farmers to be the best kind of farmers. It is not the business of the church to impart knowledge about science and about the affairs of life, but it is the business of the church to inspire the people to investigate and make inquiry about the things that are helpful to them in their lives. It is not the purpose of the church to take the place of the school, but to inspire the school authorities and those who have to do with the school to have the best possible school in the community. And I am sure that when a church conceives of its mission in this larger way, joining hands with the school people and with those who are in charge of the government—not that it is to run the government or the school or run the different institutions that are organized in the country—but to inspire each one who has responsibility, in whatever relation in life, to perform that responsibility in the best possible way.

I am sure the church welcomes gladly the effort which the Agricultural College is putting forth to help the country people, and I want to say frankly that as a worker in the church I find no other institution that is so ready and willing to co-operate with us in what we are trying to do to bring about better things in the country than the Agricultural College. Now, I wish that our seminaries were as free to take up the spirit, the new rural spirit, and co-operate with the churches in preparing them for the ministry that the agricultural colleges are. I have heard of ministers denouncing from the pulpit some of our state institutions of learning as being godless institutions, but I am sure they do not always know what they are talking about when they make those denunciations. It has been my pleasure in the last three years to work a great deal with men engaged in state institutions, and I want to say that I have found most of them to be christian men and full of the spirit of the Master in doing good in the world, and I am sure that we welcome what they are doing, and would that all of our country ministers and country churches could realize what a great help the agricultural colleges are in paving the way for the new agriculture in the country.

I find a good many farmers are prejudiced against what they call book learning. They say they have no use for instruction in farming that comes from a man who sits on a leather cushion. They have the idea that agricultural men have nothing to do but sit on leather cushions and be comfortable, but the farmer who is prejudiced against agriculture, scientific agriculture, does not know what a blessing it is to many and is going to be. I am sure that the future farmer is going to be in the new agriculture which will enable him to raise two bushels of corn and wheat where he only raised one before, and the sooner he gets in line with it and begins to practice the things that are taught and that are discovered here, why the sooner he will be able to build up a better home and a better church, and better schools and better roads. So much for the platform of the administration.

Let the program be broad in its scope—the program of the church, not forgetting it is the original function to preach the Gospel—but let it be so broad and so sympathetic that it will touch every relation of life and encourage and inspire everybody and every institution that is doing anything to help to make a better country.

The next point is the cabinet, or the officers who are to carry out this program. I find here that in rural churches there is the greatest carelessness exercised in the choice of officers. Now, a minister, as the leader of a church, ought to know a good deal about human nature; he ought to be a psychologist, he ought to be able to discover who the pivotal men are. Now very often in our church elections men and women are elected to different positions because they are good and because they are faithful. Take the trustee, for instance, who has to do with the finances of the church. Very often the church elects a good man. For instance, the place that I served, one of the trustees was a good, faithful old fellow, but he was a very poor business man, and he would go around soliciting for the church saying that he was begging for the minister today, and asked the people if they could not help him out. Now the Scripture tells us that we have gifts of different kinds, every one has a gift, and some, now, have a talent for leadership. As evidence of that you have seen a group of boys or men on the street, for that matter; you will find that one or two of them are doing nearly all the talking. Now, those are the pivotal boys or the pivotal men. They have influence over a lot of men, and it is wisdom for the churches to discover those who have ability to lead and be sure to get them into the places where leadership is required. There ought to be a nominating committee for all the different offices, for the Sunday school and for the different church offices, and there ought to be time taken to look over the parish and study the individuals and, to be sure, to get the men in the offices that are designed for leadership. And I am sure the church that will pay more attention to that, or the minister pay more attention to that, will magnify his usefulness and the usefulness of the church many times over.

Next is the survey in the community. Make a survey. I am constantly surprised at how ignorant country preachers are very often of conditions in their own community, and the people themselves don't know their community. We are living in an age now of investigation. When business concerns of all kinds are making a study, an extensive study, surveys of their business, why should not the church make a study of its community—the work that is to be done. It is time we quit spending energy and money going on blindly. It would be just as foolish for a doctor called in to see a patient to proceed to give out a prescription without first having examined his patient and diagnosed the case, getting the symptoms; and that is what we are doing in a great many instances in our rural churches, simply pushing along in the dark—don't know what we have to contend with. Now there ought to be a careful survey made of everything in a rural community, beginning with the home. The minister or ministers, if there are more than one in a parish, they ought to know what their people are reading, what magazines and papers they are taking; they ought to know what facilities they have in their homes for education and for culture. It ought to be known where they are spending their evenings, where they are going for their entertainments, and there should be some facts developed by somebody as to the farmers' economic condition.

We cannot expect our farmers to build up their social institutions such as the church or the school except it be on a profit or income. A man can borrow money at the bank to improve his farm and his buildings, but he cannot borrow money at the bank to build a church or to pay the minister. Social institutions cannot be supported in a community except it be on an income, and the farmers are very often asked to subscribe to certain things, the school, for instance, or good roads, and to the church, and they are not asked as to whether or not they are able to get it. We found by surveys in many communities there is not enough of profit after the farmer has had his own living to build the kind of school he ought to have, or to fix up his home in the way it ought to be improved. And then have the community survey with reference to everything that touches the community life. Now, the minister might make that, or a group of ministers, if there is more than one minister in the community. Let the ministers go together, and the school might unite, also, and the business men, in making this survey.

I think it would be a very good idea to open up an office, if in a village or in a town, not any one religion, but a general conference of the community. Then let these ministers, this group of ministers, get together and have all these statistics gotten from the survey, and let them be filed away and indexed so every minister may have access to them. Instead of every minister and every church having its own little program and pushing along individually and separately, have one great big program for the whole community, for instance, a program of evangelization that would be so complete that it would touch every home and every life in that community, and then let all the christian people go to work in earnest with a systematic campaign to evangelize that community. Then they might have another program, a church program, or a community program, rather, for improving the educational equipment and conditions in the community. Not that this community would direct the educational work, but simply to co-operate with those which have to do with education. Then have another program, for instance, for directing the recreations of the community. I am sure that the commercialized form of entertainment today is continually counteracting the best influence of the church, the home and the school. The people ought to be in their entertainments largely. It is what they do for themselves that develops them, and the christian people of a community ought to see to it that there is no kind of entertainment permitted in the community except what is good and wholesome and fit for anybody's children to look at. That can be brought about only by the co-operation of the people in the community. They might have another great big program for co-operating in the development of musical talent of the community. And one work of the community would be to let the whole community go to work and have some competent person come and plan the music of the community. Still another for the development of the dramatic talent. The church has done a good deal of preaching against the theater, but we still have it, and one of the best ways to counteract the recreation in the community or entertainment that is called "questionable" is to put some substitute there. There is a principle in nature, in physics, that nature abhors a vacuum, and you may just depend upon it that our young people —it is their nature to have entertainment and have social life— and if the church or good influences in the community do not furnish it, why the commercialized agencies will furnish it. And so have the program arranged along the community basis and then have all the christian people of the different denominations co-operate, including the school and other agencies in the community, and I am sure a great deal more can be accomplished in that way, emphasizing the community idea, rather than to have a separate program for each church.

The next point is organization. The organization of the church life must be as simple as possible in the rural community, because of the scattered condition of the homes. It is impossible for the people to get together very often for meetings. And so we have to try to do the work as far as possible with the organizations that are at hand. It is a great mistake to multiply the organizations in the country, because every time you introduce a new organization you simply do that which must dissipate the strength and energy of the rural people.

I would recommend the expanding of the Sunday school. The Sunday school is on the job all the time in the country, and there is nothing hardly but what can be done under an organized Sunday school class.

The next point that I would emphasize in country church administration is adaptation, and I find there is a great deal of energy wasted in the country, and patience, too, by planning entertainments and work of one kind or another at times in the year when it is absolutely impossible for farmers to engage in them. There are a few seasons of the year, for instance during the seeding time, or the harvest or the gathering of corn, when the farmers have to put in very long hours, and they have not strength enough left after they have done the necessary work to engage much in any activities in the community. So in these campaigns of one kind or another, to help the people, you must be careful to plan them at seasons of the year when it is possible for the country people to engage in them. Now the winter season, for instance, when our country folk have more leisure, is the right time to enter into these aggressive campaigns for different things in the community.

There is a very sad tale told of a prayer meeting, a midweek prayer meeting, that was conducted in a parish I serve, or had been tried to be conducted, of a minister and two faithful elders coming together on Wednesday evening. The prayer meeting had dwindled down to just those faithful three, and it is said they would sit on the porch on nice nights, on the nice summer nights, and they would talk and pray and declare the common-walk people of the community were godless, because they would not come to these prayer meetings and they needed a revelation. So they got an evangelist to come at a good deal expense and they had some speech-making. The prayer meetings were a little better attended after that, but it was not long until they dwindled down to the faithful three.

Now that is a city institution, the midweek prayer meeting, and here is the mistake we have been making in the country for a long time, our country people have listened to discussions on city topics by city people. It used to be you hardly ever saw anything on the program, any topic that was distinctly rural, and our good rural people have listened to those city discussions and they go home and try to put them into operation, when they are not at all adapted to rural conditions. I contend the midweek prayer meeting for the average rural community is not a practicable thing. In the first place, it is almost impossible for them to come together for a midweek prayer meeting, so the simple thing to do is to plan the prayer at times when the people can come together.

Now, in working along this line, we found in the first place that fully ninety per cent of the people of the congregation were brought under the influence of united prayer simply by planning the prayer at times when it was possible for the people to come together. It was a very common thing to open the socials with a devotional service, or after the young people had had their play, to gather around an instrument, if in a home or in a church, and close the evening by singing some hymns and having a benediction or a closing prayer, and it did not seem at all out of place, and I am sure did much to sanctify the social life and entertainments of the young people.

I recall one time we were giving a little play in our church, entitled "Hunkers Corners," setting a country store with post-office, and there were about forty different characters in it. You know all the interesting characters that gather around a place like that. This little play called for ten rehearsals, night rehearsals, and one family living nine miles away came out for every one of those rehearsals, and the night of the entertainment, making ten times they had come, in all, one hundred miles, which these young people had driven for that entertainment. And right in the midst of the corn shucking, so you may know what that meant for those young people. Now that was early in our pastorage, and I learned that it was a very foolish thing to plan anything like that in such a busy season.

Now the way we manage that now is to have those kinds of entertainments in the winter time, and instead of coming out nine times for a rehearsal the young people come together on Saturday, bring their luncheon with them, and they will rehearse probably three or four times in one day, and under wholesome influence and supervision, and it is a social gathering as well as a cultural. Now we must not get the idea that our entertainments must be simply for the sake of entertainment, but this was cultural and had a good deal to do with the training of those young people, and besides, was a social event, and a good deal of the social life and enjoyment of the country may be associated with gatherings of this kind if they have them at times when it is possible for the people to come together.

The next point that I would consider or emphasize in the country church administration is the equipment. It is pathetic, indeed, to see some of the rural churches that we find scattered out through the country, a little old-fashioned church that was built by our grandfathers, incommensurate entirely with the surroundings of the community. But all that our forefathers would recognize in the community, if they came back here—those that have been called Home—would be that little old-fashioned church; they would not recognize the splendid modern machinery we have now and the way of doing the work on the farm. Now it is impossible to gather a twentieth-century spiritual harvest from an antiquated and inadequate equipment. Now a great many of these churches are an eyesore to the community. I find weeds grown up in the church lawn and the plastering off the church and having many times the appearance of a shed, and nothing at all inviting about the church building. Now that is very bad evidence for the religion in the community. If any one of the buildings in the whole community should be kept in tiptop condition it is the church, not only the church itself, but the surroundings. It does not cost very much to plant a few trees or shrubs or put a few good vines around the church premises, and I am sure that if every community, if every congregation would be careful and try and make the church beautiful that that would be attempted in almost every home in the community. It would do a great deal to inspire the aesthetic genius and taste in the community, and the environment, too, has a good deal to do. It has a good deal of influence on the morals of the community, too.

That is something we can all do with the rural churches. We can do something to make them more beautiful, and the rural schools as well, and not only more beautiful but more modern.

Now the Sunday school is a great teacher of the church, and it is impossible to build character unless it be on truth. Truth is God's word, and the Sunday school is supposed to be one of the great agencies of the church for teaching the word of God. Now I am sure that no modern institution, no educational institution today, would tolerate at all the conditions for teaching which we find in many of our rural churches today—maybe a dozen classes reciting in one room and nothing but a babel of sounds. It is impossible to do good teaching under those conditions, and why should we tolerate such conditions as that? I am sure that in many of those churches, if you are not able to rebuild them, tear out the old seats and seat with chairs instead, and by a system of curtains that would not cost much the room could be divided by partitions so that it would be possible to have the classes largely apart, especially for the children. We learn a good deal more through the eye than we learn any other way, and if the eyes, if they can see everywhere, and if they are reciting in a room together that way, it is almost next to impossible to concentrate attention of the children to do any effective work under those conditions, and I am sure many communities could build if they were inspired to do it, could have better churches.

I held services in a little rural church about ten miles from Champaign lately and I knew the building would not sell for two hundred dollars at auction. One woman told me the seats were regular backbreakers, and I knew they were from the looks of them. Yet on Children's Day eleven automobiles drove up into that church lot to celebrate Children's Day. Any one of those automobiles cost one thousand dollars. Now the people who sport automobiles in a community surely ought to afford something better than that in the community in the way of a church.

I realize that you can not do it all by equipment, but, other things being equal, equipment has a great deal to do. God, of course, can use the weak and foolish things, and I suppose could use poor equipment to do good work if the people could not afford anything better, but I don't believe any rural community that can afford to ride in automobiles will be honored of God in trying to conduct services of worship in a house such as I have described when they could have something better.

And the last point I would mention is efficiency, the method —not what the program is, or the cabinet, or the equipment, or the adaptation; if we do not secure efficiency all will be of no avail. Efficiency is the one great thing to be aimed at, and in this day and this age, when the business world and men everywere are combining and striving for efficiency and economy in administration of their business, why should not the church be up on this question of efficiency? Now I am sure that we ought to pay more attention as rural pastors and Sunday school superintendents—we ought to give more attention to the training of leaders in the rural communities. Mr. Moody used to say, "Better put ten men to work than do the work of ten men." I am sure that is a good principle to follow. Get the pivotal men in the offices and then train them for it. There is not anything to hinder a rural pastor from getting Sunday school teachers together or his church officers, or everybody that has anything to do with the work, to get them together once in a while and train them instead of trying to do it all himself, as I find a great many ministers are trying to do. Train men to lead in the various activities in the church, and then not only train them to lead but exact of them reports. Might have monthly meetings of all the officers and have every man in an office of any kind bring in a written report. If he has not done anything, make him write it out in so many words that his committee has not done anything, and keep on in that way, requiring them to bring in reports, and after a few years of this kind of work you will find the great value of these reports. They ought to be filed away and kept. The committee is making history, the church is making history, and get these reports out once in a while after a period of five years and note the progress that has been made and the new enterprises that have been undertaken and how often a failure has been turned into success through persistence and through thorough work in bringing about efficiency, and I trust that above all else this conference may desire for our rural people, it will be to inspire them to greater efficiency and administration of church business. I thank you now very much for your kind attention.

THE LADDONIA PLAN AND ITS PURPOSE.

(Rev. J. L. Watson, Laddonia, Mo.)

By way of introduction let me say that in the summer of 1912 I visited Locust Grove Baptist Church in Boone county, Missouri, and preached to the people. Since that time I have been going there once a month, or sending a good man to conduct divine worship. During the period we have had thirty-six additions, organized a ladies' aid society, which has done more aiding than any other rural society I know anything about, started a Baptist Young People's Union, which meets each Sunday evening, repaired and beautified the house in many ways. New pulpit chairs, a new carpet, a modern lighting plant, practically new seats, and an iron fence in front of the property are some of the recent improvements. Money is now in the treasury with which to buy paint to paint the house. We now have worship twice a month, both morning and evening, by the help of consecrated laymen who are willing to give of their time and talent at least one Sunday each month. The people appreciate these meetings conducted by laymen, and to my mind their generous use in this way by the churches and pastors will contribute in no small

Rev. J. L. Watson.

way to the solution of the rural church problem. We have many laymen, with splendid ability, consecration and fine sense, who are ready to do this kind of work. I know several who never fail to render such a service when asked.

Last October we held a rural life conference which lasted six days, at which many of the usual subjects were discussed. This conference was a success in every way and resulted in much good to the community. They now have a petition filed with the county school superintendent containing the required names, calling for an election to vote a consolidated rural high school. The school will doubtless be a fact in the near future. At the last meeting the people voted unanimously to have another conference next year.

The success of the conference at Locust Grove encouraged me to make an effort to hold a similar one at Laddonia, a town of 650 people. We have seven churches, five of which have pastors. As I am president of the Ministers' Alliance I called a meeting and submitted the matter to the members; they at once became enthusiastic for the meetings. I then talked with a number of business and professional men relative to the matter. This resulted in an evening meeting of about fifteen men at one of the banks a few days later. I stated in detail the purpose of such a conference, and after some discussion it was voted by all present to hold such a conference and to support it in every way. The necessary committees were appointed and did their work well. The meetings were held in the opera house from December 8th to 12th. The house was filled every night and the meetings grew in interest and efficiency to the end. The last evening steps were taken to form a permanent organization. At a subsequent date the Laddonia Rural Life and School Association was organized. Its purpose is well set forth in its constitution, the preamble of which is as follows: "In order to promote and advance the mutual interests of the city of Laddonia and the rural community adjacent thereto, and to effect the best co-operation among the people of the entire community along all lines of endeavor calculated to better their financial, educational, social, moral and spiritual condition, we, the citizens of said community, do hereby form the Laddonia Rural Life and School Association." The constitution provides for the usual officers charged with the usual duties. The president is a well educated and prosperous young farmer. The vice-president and secretary are merchants, the treasurer is an active farmer and your humble servant is the chaplain. Article 8 of the constitution reads thus: "The officers, with one committeeman to be elected by the association from each school district in the co-operating territory, shall constitute the executive committee and shall administer the affairs of the association."

Section 7 of the by-laws reads: "The executive committee shall be thoughtful of the future activities of the association and be prepared to suggest to the meetings lines of work which will enable the association to render the best service to the community."

It is not the purpose of the association to try to accomplish everything needed in the locality at one and the same time, but we are trying to do a few things well.

In the first place, we are trying to make all our citizens realize that the interests of the rural people and those of the people living in town are entirely mutual. Laddonia has no city problems. Her water, light, heat, health, sewage, highway and home beautification problems are the same practically as those of the farmer. We have no enterprise except that of agriculture, and as the success of the townspeople depends absolutely upon the success of the farmer it follows that their interests are one, and it is our aim to banish all prejudice and bring about a co-operation of all the people in the interest of "better farming, better business and better living." To this end we are trying to secure as members all moral men and women and all young people above the age of 15 years. One becomes a member by signing an enrollment card, which is a promise to support the work. No dues are charged, but the necessary funds are secured by contributions and in such other ways as the finance committee may see fit to adopt.

In the second place, we hope to do much for the schools and we expect the schools to do much for us. The association has a school committee whose duties are made plain in by-law 5, which reads: "It shall be the duty of the school committee to interest the various schools in the community in literary contests, crop-judging contests, stock-judging contests, stock shows, community exhibitions and such other activities as will tend to teach the pupils to love rural life and to endeavor to better rural conditions."

It is our purpose to hold a stock-judging contest at an early date, the school pupils acting as the judges. As far as we know, nothing of this sort has ever been attempted in Missouri. The teachers and pupils are now at work on a course of study prepared by the professor of rural education in the University of Missouri which will enable them to do this work with intelligence.

In the third place, we aim to co-operate in every way with the Audrain County Farm Bureau. The farm adviser, Mr. E. W. Rusk, was one of the speakers at our conference and the people appreciate him and the work he is doing.

In the fourth place, by-law 4 says: "The social committee shall arrange for such social gatherings from time to time as are calculated to create a better social life in the community." By quitting our homes and business for a day and gathering in the park, or some other convenient place, where the joy, beauty and freedom of rural life can be told in "song and story" by our own people and their children, where the young folks can engage in the playing of games and sports and thus have "fine fun in a good way" and where all can meet in one great brotherhood, we hope to make this community an ideal place in which to live. In this way we hope to keep many of our best young people on the farms who would otherwise go to the city to reside.

In the fifth place,we hope to aid in the betterment of the school system. The rural schools should be made so efficient that a country boy or girl can enter the University from their home school just the same as their city cousins.

In the sixth place, the home economics and domestic science committee plans to do some helpful work at an early date.

In the seventh place, we aim to conduct a university extension center and hope to start it in a few days. It is our purpose to make a large use of the University along this line.

Let me say in closing that our five evangelical churches are co-operating in the work most heartily. They seem to be fully alive to the situation and needs and are anxious to meet them.

The regular meeting is the first Friday night in each month, at which a suitable program is rendered and one address is delivered. Called or special meetings are held as occasion requires.

ADDRESS BY S. M. JORDAN.

(Mr. Jordan is the pioneer county farm adviser and is at the head of the Pettis County (Mo.) Bureau of Agriculture.)

S. M. Jordan.

I don't know why it is, but it seems when I come before an audience nearly every fellow begins to grin; I don't know why it is unless it is my looks. I am awfully glad, however, that we are not necessarily judged by what we look like, and when I take a survey of this audience I am thoroughly convinced that there are a whole lot of people who should be just as well pleased about it as I am.

A man reminded me of something today that I don't believe I said, but he said I did; I know I would not answer a farmer that way. It was at a town where I was making one of my talks concerning two ears of corn. One was a very handsome ear and the other almost anything else. I was comparing the ears of corn, with reference to their quality, to hogs, and a man in the audience said, "You can tell a hog's quality by his looks," and I said, "No, not necessarily any more than you can judge of a man's quality by his looks. If you had to judge a man by his looks a lot of you fellows would be in the penitentiary; I don't know where I would be." The world wants you for what you can do rather than what you look like, unless you are in a baby show.

It is very difficult to attempt to take another man's place, and perhaps since "the dog show" is late, I will have to be first in the performance tonight. Two men were unable to be here—and I am not assuming at all to fill the places that those men could have filled on this occasion. I am in a sense unprepared, but I work in almost any harness and try to do my level best every day and take no offense at playing second fiddle. So they asked me to perform a little while tonight for your entertainment, and possibly for your information, if I can give you anything.

We have collected here trying to join together the things that a great many people have found out. No man can learn very much in a lifetime, but a great many men in a great many lifetimes can learn a great deal. We are here to try to find out what each has found out, and if we can make the combination we shall have more knowledge than we did have. As I said on another occasion, we are here to collect ideas and carry them home with us, provided we have anything to take them in.

The subject that I talked about a little while this afternoon and agreed to continue tonight was "Things that Make Life in the Country Worth While." And the things that make life most worth while are those things that have made the most lasting impressions on our minds for good and for good service. I will repeat, those things that have made the most lasting impressions from childhood to the present day are no doubt the things that happened on the farm during our lifetime there. These impressions have been made for good or ill, as the case may be. If they have been made for good, we agree that they have come from the very fountainhead or foundation of the civilization of this country, which is the American farm home. It has been my privilege to be in a great many places in the last few years, and I have tried always to have a definite object in view wherever I was working.

It may seem strange to you that the bankers' associations almost all over the country have invited me to come and make talks at their conventions. I have talked to every group in the State of Missouri. I have talked to them at two of their State meetings; I have talked to the Michigan State Bankers' Association at Lansing. I had to refuse the Illinois State Bankers at Chicago on account of a conflicting date. I have talked at both of the agricultural conferences that have been held by the agricultural committees of various state banking associations in Kansas City and at St. Paul. I have talked to two or three groups in Kansas and one or two in Oklahoma, and talked to the American Bankers' Convention at Boston, and when I began talking to the bankers I said to them at that time that I believe I am assuming to talk to you about an unpopular theme. I was a little bit afraid I would not get any applause because I believed I was talking to them about an unpopular thing. However, it proved to be the very reverse, and it has been my observation that every intelligent interest in this country is today looking toward the betterment of farm life and the upbuilding of the farm home. The various state bankers' associations—I believe every one of them in the United States at this time have a committee on agricultural betterment.

At Boston, where was held the American Bankers' Association convention, where 4,100 delegates registered, at the close of their agricultural session a committee was appointed on agriculture in that gigantic organization. It becomes a business proposition for the banks of this country to make the farms a little more productive and the owners a little happier and a little better fixed than they have been in the past. It becomes a business proposition as well as a social proposition, because in 1910 the census tells me that in this country we grew a crop worth approximately $8,000,000,000, and on this $8,000,000,000 crop the farmers of this country borrowed $6,000,000,000, or seventy-five cents on every dollar of our product, and on which we pay $500,000,000 interest. When the rate of interest, the commission, transfers and other trimmings that they take on approximate eight and one-half per cent, the farmers of this country cannot endure that rate. The bankers are well aware of the fact that this country cannot endure that rate. They are ready and willing to do their part, but the great difficulty in the past has been that the farmer is not ready and willing to perform his part. We make objections to practically every new idea that could be promulgated, whether by farmers, merchants, lawyers, doctors or bankers. At that great convention in Boston a man made a speech condemning the currency bill that has passed the House and he received great applause. Other men seconded what he said; they passed a resolution condemning the currency bill as it has passed the House. One lone man from Arkansas was the only man that had the backbone and the nerve and the courage to stand before that great audience and tell them that the most important piece of legislation that has been before the American Congress for many years was that currency bill. They "cat-called" him and hissed him, but today the bankers are saying that the lone individual from Arkansas was the man who understood his business.

We are trying to work out a new problem in Pettis county with reference to the bank. I am not going to tell you the machinery, however, that we are trying to put into motion, but we are endeavoring to have the Pettis county banks stop the practice of paying interest on time deposits. If you have money put on time deposit, maybe you will say that is not right, but if you say so I would like to take issue with you.

Our banks pay the people three per cent on time deposits over in Pettis county. You know that you can often buy circular exchange at a discount when direct exchange might cost you a premium. So we are trying to handle this thing in an indirect way. If I have money to lend I can go to the bank and tell them I want to lend the money, and they say "All right, I will pay you three per cent." They say they have to do that to keep the money from leaving the community. We are going to try to prevent the money leaving the community and prevent the bank from paying interest on time deposits. The bank takes my money and they loan it to somebody else. If they make five per cent they must loan it at eight, must they not? Suppose now that they could lend that money of mine at six per cent. In other words, they will say to me, "I am not paying interest on time deposit, but I have some mortgages here, mortgages on cows, and they are good collateral; I will guarantee them; I will stamp my guarantee on the back of that paper and sell you that mortgage; I will discount it two per cent; you can have four per cent out of it and I will get two per cent." The banker then loans the money, and the borrower puts it again into the channels of trade. He does not put it down into his boot nor hide it under the bed. He uses it among the merchants and among the farmers, and when four o'clock comes it has found the way over to the bank. The banker got it without paying interest on it. Every cent that he pays that man on a time deposit he must charge you as a borrower. It is the only way. Now in making the loan, or selling the mortgage, he makes two per cent there, and he saves three per cent instead of paying the interest on the money; he has five per cent margin that he makes on the proposition, and the margin is all that can interest the banker.

Now then, where are these mortgages going to land? Who is going to get them? Why we must work out the problem in this country whereby the beginner can begin. With the high price of land today the beginner cannot begin. He has not enough money to pay for all his farm, but maybe can make a small payment. The bankers are also recognizing the fact that it takes six to ten times as much to equip a farm for successful operation today as it did forty or fifty years ago when labor was cheap. So the time is here when money on easier terms and longer time must go onto the farms of this country.

How are we going to manage it. We are going to try to get cheaper money for the farmer from this man who has money to lend on time deposit. That is, we are going to lend it to him at six per cent on three years time, not ninety days, nor sixty days, nor thirty days.

A little while ago I was in St. Louis and made a talk to the bankers and one of the newspapers reported me about as I said it, but the other reported it a little differently, and then an editorial in one paper, taking the report from another paper, made me say this: "Pettis county bankers will not lend Pettis county farmers money with which to feed cattle." Now anybody that knows anything at all about it knows that that is not true; that bankers do lend many men with good standing what money they need to feed cattle, often it being the case that the banker has to borrow money from another bank in order to accommodate such a customer. But the bankers do not lend farmers money with which to breed cattle, and until more farmers breed cattle they never relieve the cattle shortage. The farmers quit breeding cattle for the reason that it was not profitable. This is the only reason; it cannot be figured out any other way. We must bring about a condition that will make the breeding of beef cattle profitable. If the banker lends this money to a young man, a beginner on the farm, lends him this money with which to buy cows, who gets it? Tom, Dick or Harry? No. (Maybe Abraham, Isaac and Jacob could, while maybe giving too much consideration to Abraham, Isaac and Jacob and not giving enough consideration to Tom, Dick and Harry.) When a man makes an application for a loan it will be my business as a county man of Pettis county to investigate that fellow, see what he is doing, how he farms, whether he farms mostly in town or out in the country. If he farms mostly in town he is counted out at once; if he is not industrious he is counted out, and if he "boozes" just a little he is counted out. It will be my business to help him in handling his farm in a right manner to get enough feed out of it to feed his cattle. The bank takes the mortgage on the cows with their increase for three years' time, and at the end of three years, under reasonable management, the increase will easily pay the bill. We put the young man on the farm breeding live stock, growing cattle on the farm, and you cannot point to a man in this country that is growing a good bunch of cattle on his farm and not making his farm better while doing it. These are practical problems that we are trying to work out. This institution has been hammering away for years and trying to drive home the same ideas. Bankers dislike long-time loans for the chief reason that in the past a panic occurs once in a while, and when such does happen the banks can realize on short-time money when they could not do so on long-time money. If we could bar the possibility of panics it would relieve this condition and make long-time money possible.

At the foundation of making things in the country or life in the country worth while, we can trace it back possibly to one word, and that one word is "Citizenship." I repeat what I said today that a high quality man and a low quality soil cannot live together. The soil will make the man poorer or he will make the soil richer; they will eventually get together. That is one of the things now that I have been trying to bring about by hobnobbing with the bankers, realizing the fact that if we can make it possible for the boys of the State of Missouri to begin farming in a profitable way, and when those boys eventually have the home paid for we will have a citizenship in Missouri that is well worth while. If every man on every farm and every man in every town was the owner of a home, and one that was reasonably good at least, I believe that our hardware stores would not carry padlocks in stock unless some outsiders came in. It might be that some of the "Quo Vadis Club" would happen along. The means by which we are trying to accomplish other things is through school and through organizations of various sorts.

Just one or two of the things now by which we have to popularize our work. There is the farm adviser—that is what they call him; I wish we had some other name, and while I think of it, I did hear another name for him. Some fellow said he was "a nuisance." So they can take it as they please, but the people that we have served possibly would not be satisfied to give us that title. I am going to give you one or two illustrations of some of the things that we have to do, and the man will make good on that work in proportion to the number of places that he can see where he can render efficient service. If he cannot see where service can be rendered, he will fall down on the job.

A little while ago a man was taking me through the country; we were making soil tests on several farms that day in the neighborhood. I was to make a talk at a meeting that night. He said, "I have to stop at one of my neighbors down here; he don't believe in you"—and by the way, they don't all believe in me over there. I have some very much appreciated objectors. And who don't? If you do something, somebody will kick you; if you don't do anything they will kick you. There is only one place that you can go that I know of to keep from being kicked—and that is to your grave. So that the enemies that we have to overcome, not the enemies to the individual but the enemies to the proposition, and I think just as much of that man who objects to that proposition as the man who accepts it; he has just as much a right to his opinion as I have to mine. I respect the man, no matter what his belief may be, if he plays fair or fights in the open, and that is what a good many of our Pettis county friends did. Among the best farmers over there many of them objected to the proposition in the beginning, but they fought in the open; they investigated the matter, and today they are among our very best supporters and friends. When we drove to the farm I spoke of a moment ago my friend said, "That man will not do you any harm, but he don't believe in you." I said, "I will not get out of the machine until invited." But presently the man came down and asked me if I thought he had any soil that would grow alfalfa. I knew by his look that he did not want to grow alfalfa, had no faith in it, and I said, "Well, I doubt whether you have. It looks to me like this farm is pretty badly worn." I told him if he would like for me to make an examination of the soil I would be pleased to do so, and that up yonder on the hill looks to me like the only place that might be reasonably sure of growing alfalfa. I made the soil test and while we were at work he asked, "Are you an orchard doctor?" "Oh," I told him, "Not much of one, did not know much about it." "Well," he said, "I am having some orchard trouble." I said, "Maybe I can help you. Let us go down there." He said, "My trees seem to be dying on one side." I knew at once what the trouble was. We walked on and I saw one tree a short distance ahead of me that was a nice looking tree. Before we got to it I took my knife out of my pocket. The farmer had not observed that the bark was dead, but I had; I had seen too much of it. I took my knife and cut down a slice on each side and that piece of bark fell right down to the ground. By spring you would perhaps see that bark drop off of the tree. I told him what it was, how serious it was and what to do for it, but pointed to another tree. "Now," I said, "that other tree did not die from this cause. That tree leafed out nicely last spring, had blossoms on it and a certain amount of fruit, but within sixty days was dead." I said, "You cut some bark down on that." When he put his knife into the bark and cut it down the dust almost flew into his eyes. He found it completely tunneled out under the bark. I called his attention to the little holes in the bark as though the bark had been shot with fine bird shot. I told him that those holes were where the beetles had come out and gone to other trees. I said, "If, when you saw that tree dying, you had cut it down and burned it all you would perhaps have saved trouble this spring." We talked on a little while and I dare say that he was my friend when I left. I had performed a real service for him.

Another man called me in as I was going by one day and said, "I want you to look at my orchard. I don't know what is the matter with it, but the trees seem to be dying." I looked over the orchard, an eight-year-old orchard, and I did not find a tree that could possibly live through the summer—this was early last spring. I explained the trouble to him and explained that no doubt the trees were diseased when he got them, and that if he had understood how to examine that disease he perhaps could have prevented having to take the ax now and cut down the orchard after he had been taking care of it for eight years, cultivating it for eight years, been spraying and taking the best care he knew, but now after eight years work he would have to take the ax and destroy it. Another real service, a genuine service that could have been performed had we got to the man's orchard in time before the trouble had gone too far.

At another place where I was taking dinner one day the lady said, "If you can tell us how to grow just enough potatoes for our own use we will think maybe you are earning part of your salary." "Well," I said, "Can you grow good tops?" She said, "The finest tops you ever saw." I asked the man if he could grow good straw piles. He said, "Yes, fine straw piles. A field looks like it will make twenty to thirty-five bushels per acre, but it does not make fifteen." They told me what their troubles were. I told them what to do. I went away; he promised me that he would do what I told him. I did not see him any more until State Fair and then just a few minutes, but I asked him if he grew any potatoes (it was awfully dry down in his neighborhood). He said, "I did where I followed your directions; where I did not I did not grow anything. I had never been able to raise potatoes on this farm, while even with this awful weather I had a good crop." He told me those were the only potatoes he had ever grown on that farm.

So it goes all along; so many opportunities for rendering service. The Hessian fly was reported as making lots of trouble.

I had an article in the paper one day and I said that I did not expect to see very much Hessian fly. Some others said that the fields were full of them. I made an examination in several fields and I did not find any Hessian flies. I found several bugs, however, but they were not Hessian flies. One man called me in as I was going past his field, described his trouble, and I thought possibly he had the fly in his wheat, but the examination showed that it was not the Hessian fly at all but leaf hoppers. When we find these in wheat we perhaps cannot do very much with them unless the ground is dry enough to get a harrow and run over it. That is one of the great difficulties with alfalfa. Sometimes the alfalfa is attacked by leaf hoppers; the leaves begin to dry and we believe it to be attacked by disease. Sometimes the alfalfa is attacked by a leaf disease, but it is usually not a leaf disease but the leaf hopper that is making the trouble. We find the leaf hopper does not like to have his back scratched with a harrow. We get into the alfalfa with a harrow and disturb it in some way and he gets away from our field and goes over to our neighbors, not asking permission.

In making life in the country worth while, in taking up county work, a man will get along in proportion to his information, to his sympathy with the work, to his integrity, purpose and ability to get close to the man he is trying to serve. If he can do that he will make good; if he cannot, the chances are somewhat, at least, against him.

Another matter that we are trying to take up is in benefiting the schools. Our boys and girls need a little better education today to cope with the world's condition than they did a few years ago. The country school has not kept pace with the city school, and as a result, when the country boy is through with the little country school we must send him to town, and when he once goes to town—maybe I had better repeat a little story that I heard today; it will take but a moment.

The man said, "We have only one college graduate living in our community. It is true that we have sent our boys and girls away to the colleges and to the universities, but none of them have ever come back to help us."

I call that a pathetic story. These young people going away to learn of the world and its ways, that they might bring the information that they get in these schools back to the home, but our system of education in the country has made it so that they have not returned to help us.

The ideal school—that is, the social center where the master makes it his home, with a little farm in connection—is where the people have their meetings, and the school is held twelve months in the year. I do not mean that the children attend school five or six days a week for the twelve months, but attend school five days for a part of the year, then during the summer season, while their experimental work is being done, go back to the school at least once each week or two to review the work and look after such things as may need attention. Thus they are taught how to perform the duties that they will be called on after a while to do. Why, I remember one of the problems in algebra. It was about a man on horseback and a man on foot, and a goose. The goose started out along the road traveling, of course, at a slow rate. A while after that the man started on foot. After he had been gone for a while another man started on horseback, going a little faster, and they wanted to know of me, after they had been going a certain length of time, that is, after the goose had been traveling a certain length of time, how far it had gone when the first man overtook it and when the second man overtook it, and how far the first man had gone when the second man overtook him. Well, I expect you could not work that, could you? I could not, either. I did not want to try very much because I believed it all a lie, anyhow. After I had graduated from the rural school I knew a good many things—I thought I did—but I did not know how to feed a calf. I did not know how to feed a boy or a girl a balanced ration. Yet feeding calves and people was to be part of my life work, yet my school had absolutely failed to equip me for that greatest of all things, making a living.

Now then, our work in the country and your work and mine will be measured by the service that we can render. It has been my privilege to visit a great many historical places of this country within the last few years, and while I don't like very much to go to the grave, yet I sometimes make the trip, especially when I can visit a cemetery where great men have been buried, possibly a few hundred years. In some of those burial grounds the marble slabs and the granite ones that were erected have lost their lettering, it being erased by the ravages of time, and on some of them hands that have remembered have imbedded the bronze slabs and tablets in them, reciting the inscription that the marble and granite ones bore. I find in every case where such have been remembered they have been remembered on account of some special service that they rendered. The service that any man can render is the measure of his success. It matters not whether you be a leader or a follower; it makes no difference whether or not the world looks upon you as great, if you perform the duties that you have assumed to perform and do your level best. For such service, I believe, the final reward is great. If you fulfill that duty that you have assumed men may not call you great—that matters not—but after a little while the accounts will be cast up and you will be looked upon according to the service you rendered. We sometimes in making this illustration refer to the stoker who puts the coal in the furnace that drives the great wheels that sends the great ship across the mighty deep, bearing the captain of the ship and the cargo of human life across the sea. If that man who is feeding the furnace is doing his level best every day, performing the duties that he has assumed, and the captain of the ship is doing his level best every day, their reward will be great. The trackwalker walking along the railroad to see that every spike is in place, every tie sound and every rail without defect, the integrity with which he performs that service renders safe the human life that passes over the rails. The railway president surrounds himself with men of ability, men of integrity, who perform their duties the very best they know. In other words, all these men are doing their level best every day, because on their efforts and on their work depends the measure of the safety of the human life that passes over the road. I don't know what you may think about it, but I believe when the stoker at the furnace and the captain of the ship, and the trackwalker, and the railway president have passed over The Great Divide and are standing side by side to be weighed in the balance of God's Eternal Justice the beams will swing equal.

ADDRESS BY W. F. HUPE.

(Mr. Hupe is superintendent of schools in Montgomery county and is a real leader in Agricultural and country life work.)

W. F. Hupe.

I came here to make a great speech, but now I can't do it. You will know I had a great speech when I tell you that Mr. Wright stole it and delivered it just now. In the second place, I am informed that I am limited to five minutes when I expected to use fifteen minutes. So I shall have to hurry and touch only high places.

When I used to sit in this audience as a student, when I attended school here, I longed for the time when I might have the honor of standing on this platform or speaking from it. Now when I have the privilege I am afraid to get up there. I wish I did not have the opportunity.

It seems to me that this problem of rural life improvement which we are discussing this afternoon is largely one of education—education through the schools. I do not want to repeat Mr. Wright's speech, but I do want to suggest just one or two things in connection with it that he may have left unsaid.

In the first place, it seems to me, as he has already so forcibly argued, that we need a change of ideals, need to hold up before our boys and girls different ideals. We have held up long enough the ideal of the president, the governor, the statesman, or the doctor or the teacher, or of the lawyer, as Mr. Wright said, but we have left unsaid, untaught, those things about the country men who were just as great as our presidents, or our governors or our statesmen. We need to teach in our schools, in our rural schools, something about the things that surround the boys and girls on the farm—some of the things that savor of the country life and country interests. And the boy or girl that learns to interpret the grass that grows in the field, the flower that grows by the wayside, or the trees that grow in the forest, has learned a lesson that is no less valuable or no less important than the solution of a mathematical problem, so far as his or her well-being and happiness is concerned.

So I say we need a change in ideals. We need ideals of the happy, thrifty farmer and happy farmer's wife. We need to teach the boys and girls the idea, the truth, that the man who improves the farm, the soil, and makes it more productive, is no less a benefactor, is no less great, is no less happy than the president or governor or statesman or the professional man. We need to exalt country life by giving it proper interpretation.

To bring that change about we need two things; I think we need, first, a change of textbooks. I mean we need to change the matter and nature of our textbooks and put in them some things that pertain to and teach of country life and things in the country. Our teachers are sent out to teach, and we superintendents and institute lecturers urge them to teach agriculture and the things that are vitally connected with country life, but we place textbooks in their hands and expect them to teach those textbooks which have little or nothing of that nature. And that is why so many of our teachers, especially young teachers, fail to teach the things they ought to teach, and the things that will make boys and girls love the country and country life, and that will tend to keep them on the farm.

Another thing we need is—well, I think the Legislature ought to give us a law fixing a minimum age of 20 years for school teachers. I think the time has come, or it has been all the time, when children should not teach children, should not teach school.

Then the rural school should be a school for country boys and girls and not a school modeled after a city school. The rural teacher should be a teacher specially trained and educated for teaching in the rural school; not less educated than the city teacher, but if any difference, better educated, more extensively educated and along somewhat different and more numerous lines.

Time fails me to elaborate on this as I should like, but summing up, I would say that we need for our rural schools, in order to bring about the needed improvement of country life, first, a textbook reform; second, a special rural teacher; and third, a special school properly equipped for the country boy and girl. Rural education should be such as will enable our boys and girls —the future farmers—to see in the hogs and sheep and cattle they raise and work with and sell more than the mere dollars and cents they represent, to see something of the wonderful beauty God has placed in these animals. Then, too, the rural school should train the boys and girls to see and appreciate and love the wonderful and magnificent beauty that spreads all about them on the farm and in every country place. The farmer whose training is such as enables him to see and love and appreciate this beauty and glory will love the country. Drudgery will be removed from his work, his life will be wonderfully enriched, and he will be inspired and enabled to make the country and country life more ideal.

WORK THROUGH THE GRANGE.

(Mrs. James N. Hutchison, Johnson county, Mo.)

Mrs. Phillips was asked to talk on what we have been doing along the line of high school improvement. I hardly know what else to speak of unless it be of our work through the grange.

Our community is not so much unlike other communities because we have just about the same kind of people; some of them are poor, some of them are in good circumstances, but we have none that are rich; and we have the educated and the uneducated. The uneducated, I believe, are in the majority, and they realize what they have missed. Seems like they are more determined to put something before the younger generation that will better fit them for life and make them better satisfied.

Now, of course, Johnson county is very proud of all that has been done for them. We are glad of all this and still we are not satisfied with ourselves. We want to push on and do much better things than we have been able to do so far.

Our grange was organized last December with about twenty-five charter members. As summer came on the attendance dropped. There was so much work for the farmers that they were not able to do very much in the grange until this winter. Now it seems to be taking on new life and we are adding two, three, four and sometimes five members at a time.

Our programs have varied so as to suit each member, the old and the young, the men and the women. We are taking up the things we are interested in out there and things to connect us with organizations that are trying to help us. Its interest, I think, are broader and the organization stronger because composed of men and women both. While the women are doing a great work, they have the co-operation of the men, and the interests being united, there is more of strength. The women manage these things, but have to call on the men for money when they get ready for their ice cream suppers and other money-making activities. So I think it is strengthened in that way, and that is the way to get the good out of the union of the two in our programs.

This is an old organization, and I am sure most of you here know better what has been done for the farmers than I do. We hope that through our work the community may be made stronger and country life more attractive.

I want to tell you a little of what we have done in the way of improvement in our high school. We have put a stove in the hall above for entertaining our friends, where our socials are held and where fellowship is fostered. Then we have put shades at the windows and made other little improvements. Our activities, too, have also taken form along other lines. We have decided to have a declamation contest in the township between the eleven districts, and are offering a gold medal to the winner. This is to encourage work to which but little attention has been paid.

WOMEN'S CLUB WORK IN THE COUNTRY.

(Mrs. Ivan Phillips, Kingsville, Johnson county, Mo.)

I have been asked to tell you briefly something about development in our community. I think this comes to me by our having Professor Emberson out there last summer to dedicate the new high school building.

I will tell you first just a little bit of how we are situated. Jackson township is in the extreme northwestern portion of Johnson county. It is nine miles square and the nearest railroad is four miles from the southern boundary. On the north, eight miles from the boundary, is another railroad. We have no cities, no mines. We are altogether in an agricultural country. There are two country villages; general stores where we may get needful supplies. One is at Pittsville in the eastern part and one at Elm near the center.

In 1909 there seemed to be a kind of mania for street fairs passing over our country. It dawned upon the mind of some of our good men: Why not Elm have a street fair. It was considered a huge joke for miles around—Elm with a street fair! But we had that fair, and there never was a movement started anywhere that so drew the people together. The old people were there with exhibits. One old gentleman with some potatoes, a man whom nobody had ever encouraged about his farming, but his potatoes took the blue ribbon that year, and he was just as much pleased as a little child. One had some oats, of course, and he took a blue ribbon. The fair was made an annual event, and by working together we became better acquainted. I think, too, it developed in the minds of the older people an ambition for their children that they might learn to do better, to be more than they themselves had been, to have more opportunities.

In February, 1913, Mr. R. H. Boston, our superintendent of county schools, called a meeting of the teachers and patrons and the school board at Elm, and at this meeting they discussed, among other things, the advisability of a rural high school at Elm. The citizens were sure it would be impossible to vote this and organize the high school, as the state law required. A few of the leading citizens were not willing that their children, who were just then ready for high school, should wait these two or three years for consolidation, so they formed a stock company, selling shares at twenty-five dollars each. Some took just one share, some took three and some as high as eight. Then one gentleman in the neighborhood who had no children to send to school—he was an old man, his children were all grown and able to support themselves—gave two acres of land to put the building upon, with the promise that when they needed it he would give two more, and I think he will give more. It is not the old men of our neighborhood who are the kickers. It is the man who says: "I went to school so and so, and that is good enough for me and will do for anybody." Perhaps you have all seen him. Well, this school proposition has exceeded our wildest dreams as a success. The men laid their plans for a large building, well equipped. You know they knew what they needed, but when they came to look at the funds there was a limit, and it was just a little bit discouraging. The men would come home from these meetings of the stockholders looking so blue and say: "I don't know whether we are going to make it go or not." Then you know the drouth struck us, and it being a strictly agricultural district, I think we suffered more, perhaps, than we would otherwise have done. Just here we mothers thought it time for us to go to work. On the Monday after Mothers' Day in May we met and organized the Rural Improvement League of Jackson Township. We got the idea from some of our city sisters near us who have civic improvement societies for beautifying their cities. We felt that we wanted not only to plant trees but to grow boys and girls worth while. So we organized this Rural Improvement League, whose object, as stated in our constitution, is "To promote education, sociability, sanitation and provide attractive environment in our township."

Along the line of education we went to work on the high school. Helped with that just as much as we could and, in order that we might get all the women interested, we subdivided the league into clubs composed of the women in each school district in the township. They are not yet all organized, but I believe that we have a representative from each school district in our league membership. These separate organizations are to look after their own district needs. We felt it better to undertake one thing at a time and do that well, so we put all of our energies last year into helping the high school building committee. We installed a Waterbury heating system and acetylene lights.

When we speak of raising this money the next question the women always ask is "How did you do it?" Well, we had a series of ice cream suppers, and we always tried to make our plans in the work of raising this money help sociability along with it. Of course most of you ladies know how the ladies' aid societies go about this, and we went about it in much the same way.

In the matter of sanitation, we have been trying to look just a little bit more closely to the conditions in our several district schoolhouses. We are planning to do a little bit more for the rural high school right away, and that is to put in an agricultural laboratory. I believe it was Mr. Wright yesterday evening who was talking about the biographical study we get in the average high school. I think we will try to put in a library in which will be found biographies of the men of whom he spoke.

COUNTRY LIFE MOVEMENTS IN MISSOURI.

(J. Kelly Wright, Farmers' Institute Lecturer, Missouri State Board of Agriculture.)

J. Kelly Wright.

I am supposed to talk to you on country life movements in Missouri. Since my time is allotted to thirty minutes I shall spend one-third of it mentioning some facts and conditions that exist, one-third in giving the reasons for these conditions, and devote the remainder of the time to the remedy. I would like first to call attention to the country life movement in this and other states. Society is today really in the most critical condition in which it has been since the government in the United States began. We are to determine within the next twenty-five or fifty years at most whether or not farm peasantry comparable to that in some European countries shall exist here. I do not think it will ever exist in this country, but if it does not, it will be because the people rise up in their might and change some of the conditions that have been brought about within the last hundred years and make better conditions, all of which have to be brought about and determined mainly by the country people themselves, or at least by the country people in co-operation with the best men of the villages, towns and cities.

Agriculture is the very basis of our Nation's life. The life of this State and the life of this Nation ultimately depends on just about two things: the fertility of our soil and the quality of our citizenship. As Mr. Jordan said, good soil and good citizenship lie mighty close together.

Now if you would just go with me from the New England States I would take you down the Atlantic coast across through the states of Indiana, Missouri and out into Kansas, north through Nebraska, through the Dakotas and on up into Canada. Looking backward, I would show you a train of depleted soils over which our fathers passed in the progress of civilization westward. It is not for us to criticise our fathers because I think they farmed rightly. I think they met the conditions of their times when land was rich and cheap and plentiful; when they had only to tickle the soil a bit with their crude farming implements and the crops would grow, and when the soil no longer responded to that sort of treatment they had only to go a little farther westward and take up new lands at a dollar and a quarter an acre and repeat the process. Now we find ourselves in possession of the very soil over which our fathers passed in the progress of civilization westward. It is no longer a virgin soil. It has already yielded to the plowshare and to the tread of civilization. Every acre of it has doubled in value within the last ten years. On a poorer soil we are face to face with the proposition of making two blades of grass, two ears of corn or two dollars grow where one used to grow before, or we can't make the same rate of interest on the investment that we made ten years ago because our capital has doubled.

Our students of political science and political history tell us of many reasons for the downfall of the Roman Empire, the chief of which they claim was political corruption in the city of Rome, but there is a reason farther back than that. If we look over the pages of history we find that there came a time in the Roman Empire when the people lost their love for the soil and the open country and drifted into the towns and cities. The fertility of their soil had become depleted and the quality of their citizenship had declined. Wherever we find a nation with a depleted soil we find the quality of its citizenship declining, and sooner or later it becomes a weak nation. The people in authority in the city of Rome surrounded themselves with all sorts of luxuries. They even sent men out in the country to gather slaves and bring them back to the city of Rome. The people in authority there were surrounded by all sorts of luxuries, the children born to the city of Rome were born to slaves.

In telling you some of the facts and conditions that exist today in Missouri I should like to take you from a county seat out along a country road to an old-fashioned farm home. 'Twas a good old home in its day, a two-story log house with walnut weatherboarding without, finished with ash lumber within, two big rooms below and two above with long halls between and a great long ell. Here in this old home not many years ago in the autumn time, when the leaves were red and yellow and brown and gold, there was born a rosy-cheeked, brown-eyed baby boy, and as he looked up into the eyes of his mother, his own reflecting the beauty of heaven and earth, no wonder the mother exclaimed "Surely you are the sweetest baby in the world!" And to that mother he was. The days, the weeks, the months, the years went by; toys came into the home, picture books, story books and, after a while the baby learned his A, B, C's. Then the mother and the father began to talk about the first day of school.

Have you ever experienced that first day of school in the country? They dreaded the coming of the day but it came, and the baby went to school. How proudly he walked from the house to the gate, kissed his mother good-by and walked down the lane with his little book under his arm.

What did he leave when he left the home that morning and went down the lane to the schoolhouse? He left a home surrounded by shade trees and grass and flowers and fields and flocks, just as beautiful as nature could make them; a home in which could be found good books, comfortable seats, good pictures on the wall, everything calculated for the development of a baby boy into a truly good, useful and noble man.

Now what did he find down at the other end of the lane? A little old, cold, deserted, paintless, weatherbeaten shack of a building in which I am told even the bats sometimes refused to stay; no grass in the yard, no shade trees, no flowers, no comfortable seats in the house, no pictures on the wall, no books for him save the little book that he held under his arm. Out on the playground he found a group of anxious little boys and girls, some of whom wondered who the little stranger might be. And the little schoolma'am, I am told, imbued with the surroundings of the place, said in the usual way: "Well, what is your name, sir?" He could hardly understand it all. Everything seemed so different from the life at home.

Somewhere I have seen a schoolhouse like this set on an acre of ground, the building in the middle of that acre. Inside of the schoolhouse a stove in the center of the room and the seats all nailed down, and under the stove and around it a box in which was placed some sand for the directors and patrons to spit in on election day—and the box still waits, like the little boy who had been bad and his mother shut him up in the closet. He was so very still that she said, "Bobby, what are you doing in there?" He said, "I 'pitted on your hat, and I 'pitted on your dreth and I 'pitted on your coat, and I am waitin' for more 'pit."

Tell me, friends, do you have your stove in the middle of the room at home? No, because that is not the place for the stove. Do you have the chairs all nailed down at home? No, because they are not comfortable that way. Then tell me, why should we have the schoolhouse in the middle of the yard, the stove in the middle of the room and the seats all nailed down?

Now who was this boy that I have told you about? I am going to name him for you, though I think I need not do so for I think you have seen him perhaps many, many times right in your own community—the average Missouri country boy.

What did he go down the lane for when he left the home that morning? You tell me that he went down the lane to the schoolhouse to get an education. What is an education and what is it good for? I do not know what your idea of education is, but I will give you mine.

An education is a training for a life work of some kind, the ultimate end of which is the building of a home. Did you ever try to define that word home? It cannot be defined. Home means so much to me. What does it mean to you? To some people home is simply a place to sleep and eat—that is all. Somebody said: "The world is as we take it and life is what we make it." I say, "The world is as we take it and home is what we make it."

"To the teacher life is a school,
Life is a good thing to the grafter,
But it is a failure to the fool.
Life is a long vacation to the man who loves his work,
But it is an everlasting effort to shun duty to the shirk.
To the earnest christian worker life is a story ever new,
Life is what we try and make it,
Home is what we try and make it,
Comrade, what is life and home to you?"

And what will it be to all the boys and girls of Missouri who go down the lane to the schoolhouse that I have described? Do you know that of all the boys and girls that go down this lane to the schoolhouse eighty-five out of every hundred never go to school anywhere else; there they get all the training for their life work, all the education they ever receive right there in that little one-room country schoolhouse. What becomes of the other fifteen per cent? Why, they go away to our colleges and universities and become professional men and women. They will take care of themselves. We need not worry about them longer.

But what about the eighty-five per cent? They are divided into two classes: One class become dissatisfied with farm life. These follow their classmates right along to the same towns and the same cities, but they do not go there to go to school. The other class remains on the farm. If one class becomes dissatisfied with farm life and leaves who is responsible?

Do you know that the rural school teachers of this State are saying to your boys and girls, "Pass your examinations, be promoted from one grade to the next, pass your eighth grade examination, and get your high school entrance certificate and go to high school?"

And where is your high school? Is it out in the country where the boys and girls grow up? Not so. It is usually in some village, town or city, perhaps many miles from the place where the boys and girls were born. Their goal has been the city high school. They have had the same training, same ideals put before them that the fifteen per cent have had. Is it any wonder, then, that they want to go to town to school? Can you see that we are giving a hundred per cent a training that only fifteen per cent use? We teach them in the rural schools the things that will admit them to a city high school. Why? Because we know when they get to the city high school if they have not had the training in those things they won't let them in.

What do they teach them in the high school? The things that will admit them to some college or university. Why? Because we know that when they get there if they have not had the training and those requirements they will not let them in, and every step they go the farther away from the farm they get. It has been my experience and observation, and I think it has been yours, that when once these boys and girls get away they never get back. I would not give a snap for the slogan "Back to the farm." Better say "Stay on the farm."

Every country boy and every country girl has an inherent right to just as good educational advantages as have the boys and girls in town. Why do we have better schools in the towns than we have in the country? Simply because the "city dads" got their heads together, went down to the schoolhouse on election day, voted the levy to build the schoolhouse, equip it and employ the teachers. Why did they do it? Because they thought their boys and girls were worth the price. The man who goes down to the country schoolhouse on election day and votes against a good school and good teachers says indirectly by that vote, "I don't believe my boys and girls are worth the price."

Now, then, are you to have as good schools in the country as you have in town? Believe that our boys and girls are worth the price; go down in our jeans and get the money to build the schoolhouse, equip it and employ the teachers.

There comes a time in the life of every country boy and country girl when they realize that they are too old and too big to go to school. That is the most critical time in all their lives. That is usually the last day of the country school. On that day when they have completed the eighth-grade work they pass the eighth milestone, the place where the road forks. One road leads to the city and one leads back to the farm. Which road will your boy and your girl take? If it is the road that leads to the city, to the high school, all good and well. If it is the road that leads back to the farm, will they stay on the farm or will they become dissatisfied and leave? Today we hear the cry in all parts of the State, "The country boy is leaving the farm."

Not long ago a man said to me: "What are we going to do to keep the farm boy on the farm?"

I said: "There are perhaps a great many things we will have to do if we keep the farm boy on the farm, but there is one thing I am sure we will have to do if we keep the farm boy on the farm—we must keep the farm girl there. I believe if we keep the farm girl on the farm the farm boy will stay."

But the farm girl is not staying on the farm, neither is the farm boy.

There are many reasons why the farm boy is leaving the farm, some of which I shall mention. I believe that every country boy has an inherent right to share in the profits of some phase of activity on the farm. I believe that every girl has an inherent right to wear pretty clothes and look pretty, yet there are thousands of homes in this State where the boys reach the age of twenty-one without having a share of the profits of the farm, where girls grow up and money is no item, and they do not have pretty clothes.

Is it any wonder that when somebody comes around and says, "I would not stay at home and work for dad for board and clothes—not very good at the best—I would go to town and get a job," that they want to go? But I do claim that the man or woman who goes nosing around in the world making other people dissatisfied with present conditions without offering something better has no right to a place in society. If you do not believe that country boys and country girls hear these things, just ask them and see what they will tell you.

Another reason why boys and girls are leaving the farm! We are building good roads and we must have more good roads in this State. But where, other than the church houses, out in the open country can as many people be seated comfortably as are seated here comfortably today, to hear good lectures, good music and good entertainment; lectures which the men and women from your normal school in your district or from any department of your University would be only too glad to give if you would furnish them the meeting place and the audience. Again there are farm homes in Missouri that do not bear very many attractions for the good, healthy Missouri boy and girl. You have seen them. The chief reason, however, for the country boy and country girl leaving the farm is that they are educated away. We have in the curriculum of our country school things that admit them to city high schools, things that pertain to everything other than the things with which they will come in contact on the farm. Consequently, all the result of this and the other things that I have mentioned is that they become dissatisfied and leave. I have told you where they go—to the same towns and the same cities to which their classmates have gone—but not to go to school. Where do they go? Into the factories and workshops to learn the trades, in the stores as clerks, in the offices as office boys and office girls. Perhaps some of the boys go to town to push an automobile for somebody at a dollar and a half a day and spend the money before sunup, or perhaps to become a street car conductor.

What do these boys and girls take with them when they leave the home in the country and go to the city? In ninety-nine cases out of a hundred they take the joy of a mother's heart, strong muscles, rosy cheeks and clear eyes, but ere long they have worked in the hurry and the hum and the hustle of the city, in the places that I have mentioned; that sort of life soon robs their muscles of their strength, plucks the roses from their cheeks and drives from their eyes the innocent clearness which they once possessed. Many country boys and country girls have left good homes with fathers and mothers and gone to the city to work from early morning to late at night for a pitiful sum compared to what they might have received had they stayed at home on the farm and worked just half as hard.

Enough, then, for the fifteen per cent who go away to school and for the class of eighty-five per cent who become dissatisfied and leave.

What about the class of the eighty-five per cent who stay on the farm? What are you teaching your boys at home and at school in your community about the different types and breeds and characteristics of horses, cattle, sheep and hogs? What are they learning about the men whose lives have been spent in the development of these different breeds of live stock? As I travel over the State I ask the boys and girls who was called the father of his country? Their hands come up. The father of the Revolution; their hands come up, and the father of the Constitution; their hands come up. But when I say who is called the father of intelligent live stock breeding not a hand comes up, and Robert Bakewell was six years old when George Washington was born. His name has already gone down in history as one of the world's greatest men. Not a bad thing, do you think, that if country boys and country girls want to study biography they learn right along with the biographies of such men as Mr. Byron, Mr. Keats, Mr. Shelley, Mr. Poe, Mr. Wordsworth, Mr. Longfellow, Mr. Shakespeare, and all the rest of them, biographies of such men as Robert Bakewell, Robert Bates, Amos Cruickshank, the Colling brothers, the Thompkins family and many others, just as truly good and useful and noble men as George Washington, James Madison and Samuel Adams.

What are they learning of the different types of soils and plants best adapted to each? What are they learning about the different varieties of corn and oats and wheat and clover, alfalfa, cowpeas and soy beans? What are they learning about insect pests of the field and the farm and the methods of combating them—the corn root worm, the corn root louse, the corn ear worm, the leaf hopper and so on? What are they learning about the insect pests and fungous diseases of orchards and methods of combating them? What are they learning about farm sanitation, care of the health of animals on the farm, control of hog cholera, eradication of tuberculosis from cattle? What are they learning about weed seed dissemination, eradication of weeds from the farm? What are they learning about architecture, the best way to build cattle sheds, mule barns, hog houses, poultry houses, farm home buildings and the like? I could stand here for a long time and continue asking questions just like these, and what will your answers be? My friends, if you do not teach the country boy something about these things that I have mentioned, what in the wide world have you taught him about the thing with which he will come in contact in after life on the farm in his struggle for an existence between his fellows there and his fellows in other lines of activity?

Enough said for the boy. What are your girls learning at home and at school today about home economics, sewing and cooking, for example? Perhaps you think that girls should not study sewing and cooking at school. Did you ever see a girl who could make her own calico dress and wear it like a queen and look like a queen? I have. Did you ever see another girl who could put on the finest clothes money could buy and yet would not look well because she did not know how to wear her clothes after she got them? I have. Did you ever see another girl who when she came out to go to church came out bedecked in all the colors of the rainbow? I have. She looked just like a barber pole. Did you ever go into a home where you found the books and pictures, the furniture and everything arranged in such a way as pleased your eye and went away and said that woman is a splendid housekeeper? I have. Did you ever go into another home where you found the same kind of books, pictures, furniture, window shades, curtains, rugs, carpets and all arranged in no way, and you went away and said that woman is a mighty poor housekeeper? I have. Why the difference? A few people are born with a little better taste in this respect than others, but the chief difference lies not in the difference of their taste but in the difference in their training. Some of our boys grow up in homes where their fathers can teach them the methods as practiced by the best and most successful men of the farm. Some of our girls grow up in homes where their mothers teach them how to buy the goods from which their clothes are made, how to make them and how to wear them after they are made. But there are thousands of homes in this State where the boys and girls grow up and their mothers and fathers cannot teach them these things, even if they knew how, for their time must be taken in keeping the wolf from the door. Can you not see, my friends, that unless we teach these things in the country school we shall continue to turn out of our schools boys who will go out on to these farms to become poor farmers, girls who will be poor housekeepers, boys and girls who will be poor home makers?

What are you teaching your girls at home and at school today about home economics, the canning of fruits and vegetables, home sanitation, the care of the health of those in their homes today and those who may be tomorrow. Not a bad thing, do you think, that the future mothers of this State learn at home and at school, while they are yet young, the care of those who are in their homes today and those who may be tomorrow. Do you know that a very great per cent of the contagious diseases that we have come through what we eat and what we drink and what we breathe? Not a bad thing, then, do you think, that we teach our girls at home and at school the care of the food we eat, the water we drink and the air we breathe?

Sometimes I hear girls say, "I don't know how to sew; I don't know how to cook and I don't know how to keep house, and I don't care if I don't, because I will never have that to do, don't you know?" I feel sorry for the girl who says that because I know she does not appreciate the fact that woman did not always hold the position in society that she holds in America today; I know she does not appreciate the fact that the American home is the greatest institution the world has produced, that is the home life of America that makes America great in the eyes of other peoples in other lands; I know she does not appreciate the position she holds when she is made mistress over the greatest of all the world's institutions, "An American home out in the open country."

Somebody has said, "There is no such thing as luck. Great things never did just happen. They are always the result of somebody's hard, earnest work, somebody's carelessness or somebody's ignorance.

"There is never a song that the breeze whispers low,
There is never a note that the bugle may blow
Like the lilt and the croon of the old-fashioned tune
That babes on the arms of their glad mothers know;
There is never a song that goes to the throne
Where angel hosts sing and trumpets are blown,
Like the low note and clear
That falls on the ear of the baby in arms
Like the dear mother tone;
That keynote to every home,
No human words can reach so high,
The sweetest song that ere was sung is
By-O-Baby, Bye-O-Bye."

Right in connection with this a story is told of a woman and her baby. The woman prayed that she might go into foreign fields to convert the heathen, but the poet tells us that the Lord in answering her prayer answered it thus:

"I have many a voice that is loud and strong
To speak to the world for me,
But no one in all the world to sing a lullaby song
To this wee little babe but thee.
And the song was so sweet
And the song was so soft
That the babe on her bosom smiled;
And the world that was weary of toil and strife
Saw God in the mother and child."

Now, my friends, I am not saying that we should teach the things that I have mentioned to the exclusion of some other things that we are teaching. We must have the three "R's," "Reading, Riting and Rithmetic." They are the fundamental things. Boys and girls must learn these. They can learn their history, their civil government and their geography and their grammar if they want to, learn them just like some of us did; learn to say, "I love, you love, he loves; plural, we love, you love, they love," if they want to, just as they learn right along with it, "I farm, you farm, he farms; plural, we farm, you farm, they farm," if they expect to go out into the country and build homes there.

Now, my friends, I am not claiming that you can teach the things we are already teaching and these other things that I have mentioned along the line of agriculture and home economics in the one-room school, but I am saying that if we cannot teach them in the one-room school let us, for goodness sake, build schoolhouses of more than one room in which we can teach these things. In the not very far distant future I can see a schoolhouse of more than one room. Near this schoolhouse a dwelling in which the master lives and spends his days, a leader in the community, a leader in society, standing for all that is good and best for the community. Around this home and school I can see ten or, maybe, twenty acres of land on which the boys and girls grow the crops they grow in the fields on their fathers' farms. Not far from this schoolhouse and the home I can see a church, and near this church a dwelling, the pastor's home, where he lives and spends his days, a leader in religious work, a leader in society and standing for all that is good and best for the community.

In many parts of the State today people are talking "Community life." In many counties there are already community organizations. My work takes me into many fields; farmers' institutes, teachers' associations, school officers meetings and even rural pastors are demanding some of my time, asking that I come to the churches out in the country on the week days and hold agricultural meetings there. Last spring I spent about two months with rural pastors in Callaway county, Audrain county, Ralls county, Pike county and Lewis county. Sometimes I find somebody who says, "I don't think the church is the place in which to hold meetings of this kind." Then I say: "Why isn't it the place to hold a meeting of this kind? There is no other place big enough to hold us all in rural communities today?"

If a man can go into the church house on week days and hear there discussed things pertaining to the farm and go back home and grow better live stock (for there is an influence coming from good live stock that we cannot get from any other source), grow good fruit, to feed his boys and girls on (I believe the man who will grow good live stock on his farm and good fruit to feed his boys and girls on will not grow boys and girls that will want to go to war and go to the penitentiary), grow better corn, follow a better system of crop rotation, build a better home, turn out from his home better boys and better girls, to become better men and better women, better citizens—I claim that man has served the Lord just as much as the man who stands in the pulpit.

Wherever I have held meetings in country churches a local organization has been perfected. Farmers' clubs are being organized all over the State.

Some of the oldest farmers' clubs for the betterment of country life are in Monroe county. The north side agricultural class at Paris has been in existence since 1911. This class was organized after a meeting called by Miss Eugenia Schmitt, a country school teacher, living at the time a few miles north of Paris. She concluded that a farmers' organization or a community organization would result in much good. With this in mind she called her neighbors over telephone saying that there would be a farmers' meeting at her father's home that evening. At this meeting an agricultural class was organized. This class met every Saturday night of every week at Miss Schmitt's home, as I understand, and heard a series of lectures given by Mr. Emmett O'Neal, a graduate of the College of Agriculture of Missouri. At these sessions talks were given by men who lived in the community and had made a success of some particular thing. Occasionally they had a lecture by a man from some department of the University. This kind of work continued for about six months, at which time an organization with officers consisting of a president and secretary-treasurer was perfected. Meetings were held once a week. At each meeting one lecture was given and followed by a general discussion. This work continued until about October 1, 1913, when each member bought a book on agriculture and began a regular study, using the questions furnished in the text. Quoting a member of the club, "The people in the community are paying more attention to good seed, good farm implements, good live stock and the betterment of home life on the farm." An offspring of the north side agricultural class has been organized at Goss, Mo. Mr. C. H. Davis was the leader in the latter movement.

Mr. C. M. Robinson, who was for ten years with the Barnum & Bailey Circus and who now lives several miles west of Paris near Welch, has organized a club in his community. This club meets every Friday night at his home. Every year he holds a country fair and sees to it himself that the prizes are provided. I am told that aside from Mr. Robinson and his son there is not another member of this club that ever saw the University. I say this because I believe that the solution of a better country life will in general be worked out by country people themselves in co-operation with the people of our towns and cities.

Over in Lewis county the Reverend Roy Piper has perfected a farmers' organization at his church at Ben Bow. These are some of the things that they have accomplished and some of the things that they hope to do in the future. Through Mr. Piper's leadership a new lighting system has been put in the church. New furniture has been installed and a concrete walk put in, the money being collected from voluntary subscriptions. Last fall at this church the people of the community held a country life institute. Representatives of the Missouri State Board of Agriculture, extension men of the Presbyterian Church, the farm adviser of Marion county and local people appeared on the program. They expect to make the church the center of all good things, fostering community pride, conserving local traditions and rendering the greatest possible service toward the realization of a better country life.

It was my pleasure last spring to accompany Rev. Clair S. Adams, Rev. Horeman, Rev. Alonzo Pearson, all of the Presbyterian Church, and Mr. A. W. Orr, representing the Missouri State Board of Agriculture, to four churches in Pike county, Missouri. These churches were under the pastorship of Rev. Pearson. We held a series of agricultural meetings at each of these churches. As to the result of these meetings I wish to quote Rev. Pearson. In a letter to me recently he says: "I wish to say to you what I have said both publicly and privately wherever I have had an opportunity. The meetings held in the country churches in which you and Mr. Orr took such an active part in presenting matters that every farmer is or should be interested in were very beneficial in many ways. First, they helped me to show to the farmers that they are the greatest coworkers with God in this world; second, they quickened the interest of the people in farming, in their farms, in their homes, in their stock, its improvement, care and protection; third, those talks were wonderfully helpful to me in showing the people that farming is as truly the work of God and the farmer is truly the servant of God as any minister; fourth, that the farmer is as much under obligation to do all that he does on the farm for the glory of God as any minister of Jesus Christ in his work; fifth, that no matter what a man's business is, he is under as strong obligation to do all that he does and whatsoever he does to the glory of God as the minister of the Gospel; sixth, those talks on farming and stock raising in the church in the spirit in which they were delivered helped some men to become interested in the church and the religion of Jesus Christ as nothing in my knowledge had ever done."

Each county naturally divides itself into communities. Why should we not have our country life built up by communities the center of which is the home, the school and the church? We talk about teaching civic pride, patriotism, love of God, love of home and love of country. I know of no better place in the wide world in which to teach and develop these things.

Out in the open country where the home, school and church are surrounded by grass and flowers, fields and flocks as beautiful as nature can make them, with the starry canopy by night and the glorious sunshine in the daytime. Why is it not the best place in all the world to develop true American citizenship?

Whenever we build communities like this with homes and schools and churches like these that I have described, schools in which we teach the things that I have mentioned, we need not worry about the farmer boy leaving the farm. He will no longer see in farm life a life of drudgery. He will see more than that. Down in the Ozark country he will see more than just hills and rocks and trees—he will see there God's thoughts piled up; in the prairie lands of North Missouri he can see God's thoughts spread out; in the ripple of the streams of the Ozarks he can hear God's thoughts in music; in the carol of the birds in the springtime he can hear God's thoughts in symphony; in the petals of the flowers in the springtime and autumn time, in the foliage in the springtime and in the autumn time and in the sunset he can see God's thoughts in color. From homes and schools and churches in communities like this will come young men and young women who will represent the very highest type of American citizenship, young men who will consider it their highest ideal and greatest service to their State to build a home on Missouri soil, on a Missouri farm with a Missouri girl, who holds American manhood above the mere titles of other lands across the sea.

THE HUDSON FARM AND HOME IMPROVEMENT CLUB.

(C. F. Chapin, Appleton City, Mo.)

Before telling you anything about what we have done to bring our people together and make them of one aim and one mind in our community, I must attempt to take you down there among us for a short time.

We are situated in the eastern edge of Bates county and reach over into the corner of Henry. Appleton City, St. Clair county, is our trading and shipping point, and is only a little over four miles distant from our community center—the schoolhouse. It is not one of your old settled and rich sections of the State, such as you have along the Missouri river. The people are just the common, everyday kind. We have few of the rich farmers such as you have about here and in many other places. We have but one university graduate in our community that I know of. True, we have sent our boys and girls away to our different colleges and universities, but few have come back to help us in our work after they have completed their education.

While the land of our section was entered before the Civil war, there was not much of it settled until the late sixties and early seventies. Then people came in from Virginia, Kentucky, Ohio, Indiana, Illinois—places from which you trace your own ancestry, and of course from that you can tell what kind of people we are.

The community had hardly been settled before a schoolhouse was built; a Sunday school was soon organized; even a church was built, only to be moved away when the railroad passed by on the other side. But the Sabbath school was maintained in the schoolhouse until a little over twenty years ago. A denominational church was built. But that did not help matters. Though the Sunday school was kept up most of the time, still there was not that unity of feeling which was necessary to make any community ideal. Such was the condition of things until a little over three years ago, when a few of us who had been dreaming dreams and building air castles thought the time had come to do something. We thought that the people were like those to whom the musician had propounded the question as to "Who could play in the band" and they answered by saying, "Those who wanted to." So we thought the time had come for us to try to get together; we thought we wanted to see one another's faces, take hold of one another's hands and talk over what we all had in common. So a mass meeting was called in our schoolhouse. A representative audience was present. The advantages and disadvantages of some kind of an organization were brought before the people. It was unanimously voted to effect some kind of an organization to meet every three or four weeks, as thought best, as things progressed.

Officers were elected for only three months at first, for it was then midwinter and it was not thought possible to keep up any kind of a farmers' organization during the summer months. At the first meeting the schoolhouse was well filled with good, orderly people. After a good, social time mingling with our neighbors we had a program of recitations and songs, essays and talks, some by the little folks and some by the grown folks. Some of the essays and talks were upon farm topics and all were by home talent. The program was interesting and the people all enjoyed it. At the next meeting there was a larger attendance. After some two or three meetings there was added an orchestra of stringed instruments. The programs continued to be interesting, instructive and entertaining.

At the end of three months it was decided to keep right on during the summer season. But in the meantime the trustees of the church, of which I have made mention, could not see their way longer to keep up that building or secure the services of any one to conduct religious worship even once in a while. So they got permission from the higher authorities to sell the building. As it lay just across the road from our schoolhouse and could easily be made into a model building for school purposes, the school district bought it and the land with it. Our club then took up its abode in this building and, though we could now seat from one hundred twenty-five to one hundred fifty people comfortably, still we had oftentimes many standing.

In the meantime, a proposal had been made to hold in the fall, sometime after the crops, the corn and the potatoes had ripened, a fall fair and a picnic—a community affair. A paper was passed around and sixty-five dollars subscribed for premiums. Premiums were offered to the boys for the best samples of potatoes, corn, oats, Kafir, etc.; to the girls for the best samples of sewing and baking. Classes were arranged so the younger boys and younger girls would not have to compete against the young men and the young ladies. The premium list was printed and one or more copies given to each family in the neighborhood. Everyone became much interested in the proposed fair and went to work in earnest to make it a success. The interest in our meetings kept right on from month to month. Oftentimes we would have some one with us who had heard of what we were doing and would give us a short talk of encouragement.

You all remember that the summer of 1911 was nearly as hot and dry as that of 1913. As the date for our fair approached we would hear that this boy's crop of potatoes or corn was an entire failure, and that he would not have anything worth showing. He was told that all were in the same fix and that the premiums had been offered for their encouragement, so that if an exhibit were made some one would get the money. The day for the fair came. There were creditable samples of many kinds of farm products. The girls' part of the exhibit was just grand, nearly as good as that of most county fairs. Through the State Board of Agriculture we secured the services of J. Kelly Wright, whom you all know, to judge the farm and garden products. Local talent was used in the other departments.

The dinner was one long to be remembered, being spread under the shade trees that had been planted some thirty years before in the old schoolhouse yard. After dinner Mr. Wright gave us a talk which benefited all and made the occasion all the more profitable.

When in the spring of 1912 we commenced to talk about our fall fair the tradesmen of our town said they wanted to help. One hundred and fifty dollars was subscribed; the premium list was greatly enlarged. Then we had a good crop year. When the time came for the fair we had fine samples of most every kind of farm products that could be grown in our vicinity. F. B. Mumford, dean of our State College of Agriculture, was present to judge the farm and garden products, and it must have taken him nearly two hours to designate where to tie the ribbons. He had time to make only a short talk, but it was much appreciated.

There must have been five hundred people present to see the exhibits, to give us the encouragement of their presence and to hear the talk.

This last year we held our third annual fair and, though the season was not opportune, we had many kinds of farm products. The girls' part was fully maintained to its high standard. We had with us again Mr. Wright, and he seemed to appreciate the opportunity to come back to us.

The club has now kept up its regular monthly meetings for over three years with unabated interest. After we had been running a short time we met only once a month, and then when the moon gives a good light, so the old folks can see to come as well as the young.

Our club has attained considerable prominence through our section of the State. We frequently have some one with us to make us a good talk on some topic of general interest. Among these have been Uel Lamkin of Clinton and Senator Wallace Crossley of Warrensburg and others. Our ministers also have been good in coming out and giving us short talks.

Such, in brief, is the history of our Farm and Home Improvement Club up to the present, but if I am to tell you what we have been doing in the neighborhood to help ourselves I should not stop here. We had hardly got our improvement club well organized and going before the women of our community had conceived the idea of organizing a club all to themselves, a club like the town women have. So one beautiful June afternoon they met at one of our farm homes, about twenty-five of them, mostly married women, and effected an organization that has since joined the State Federation of Women's Clubs. They now have thirty or more members. They have up to the present devoted most of their study to home economics. They have provided several high-class entertainments for the community, some pay and some free. They have given receptions once a year to their husbands and sweethearts. And last spring, when word was received that the sufferers in the Ohio flood were in need of aid, the club raised seventy-five dollars for them in one afternoon. This was done over the telephone.

Now I have not time to tell you about the boys' band or the girls' embroidery club, although it would serve to show you what can be done by the young people of any community that is worth while if they want something going on.

But I must not close yet. I must speak to you about our Sunday school. It has been reorganized and taken on renewed enthusiasm and vigor such as it has not had for over twenty years. On Christmas Eve the school gave as fine an entertainment as I ever witnessed.

Again, last spring a few of our community thought the time had come when we ought to have religious worship on Sundays, in the afternoon. So a paper was passed around and a fund subscribed which enabled us to have preaching most every Sunday afternoon by the different ministers of our town. I might go more into details and tell you how our school has been greatly improved in the last two or three years. Last Saturday night the young people of our neighborhood gave a play in our schoolhouse in which the acting was better than ninety-nine per cent of the troupes that go from town to town and make one-night stands. They played to a crowded house, and the proceeds from that play—over thirty dollars—is to be used by the school board for improvements.

I have once in a while met with some one from the country who says he would like to have something going on in his neighborhood, but that they do not have the working material. I venture to say that many times they are like the sailors who were on a ship that had been provisioned for a long sail. After they had been at sea for quite a length of time a calm came over the ocean. The wind did not blow for days and days. Their drinking water became very low and they feared death from thirst. Finally a steamship hove into sight and they at once sent out a signal to let them have some drinking water. The signal came back for them to let their buckets down where they were. Thinking the signal must have been misunderstood, the second time they sent a signal asking for drinking water. Again the same answer was received. Thinking this would be utter foolishness, a third time they sent a signal asking for drinking water, and again the same signal, for they were at the mouth of the mighty Amazon river and the water was pure and fresh and would quench their thirst. That, I think, is the way with many farm communities. That is why they do not have anything going on; they do not make the attempt, do not try the experiment. Frequently if they will but do as we have, make the test, they will find that people who could not make a speech of two consecutive minutes are later able to make good executive officers. I thank you.

EUROPEAN METHODS OF FINANCING THE FARMER.

(W. I. Diffenderffer, Lebanon, Mo.)

W. I. Diffenderffer.

The invitation extended to me by your secretary to speak before this meeting is considered by me a personal compliment. At the same time, I consider it a great privilege to place before this body a brief, personal report of one who was a delegate on the American Commission that went abroad to investigate agricultural conditions in Eurpoe.

I had the honor to be named by United States Senator Duncan U. Fletcher of Florida as a delegate at large upon this commission. While Missouri had no legal representative, it was understood that I represented this grand old State.

You have already followed the newspaper accounts which stated that the commission consisted of about seventy delegates representing thirty-six states of the American Union who visited eight countries of the continent.

The purpose of this investigation was that the American people might be awakened to the general and permanent prosperity of the state and the nation, a full report of which has been made to Congress, which will be made public. The view expressed by me is my personal opinion and investigation and has no reference to the report of the commission, disclaiming on behalf of the commission all responsibility.

In European countries the rural conditions differ widely from those in America. The environment and temperament is entirely different. There the farmer with his entire family cultivates the soil and gathers the crops. His wife, sons and daughters work in the field. In Germany, I believe, fifty per cent of those in the fields are women at work on small tracts of intensely cultivated land.

Every farmer knows the business of his neighbor and his borrowings are common knowledge. The European farmer is a "fixture" on his place, which possibly his forefathers before him had owned and his family expects to continue. I was on one farm in England that had been in one family for eight hundred years. In one case I saw land that had been in use two thousand years, and it is said this land produced more the past year than it did the fifty years ago. This is brought about by careful rotation of crops through cultivation and high fertilization. I saw three growing crops in one field—potatoes, beans and rows of grapes—that is, the potatoes were planted between the rows of grapes and the beans were planted in the grape rows, the vine of the grapes being sticks for the beans.

The American farmer usually does things on a larger scale and he hires much of his help. He lives to himself. In a sense he is usually a land speculator, that is, he is ready to sell at a fair profit and buy elsewhere. He has been taught from early boyhood to avoid obligating himself to pay the debts of another. The Europeans say the American farmer is less of a farmer than a speculator in land.

European rural credit systems follow a division of short-time personal credit societies and long-time land mortgage associations. For short-time credit co-operative societies are formed and in lieu of capital credit is pledged, sometimes with limited liability of its members but often unlimited—that is, when a farmer becomes a member of a co-operative society he pledges his entire worth for the debts of the society. In Germany these societies have reached their highest state of development. Throughout that empire there is one equal for every one thousand population. It is not difficult to determine the financial standing of a borrower because of the simple methods, property assessment and title registration. Every farmer is his own capitalist.

These short-term credit societies throughout Continental Europe are generally federated. The organizations for the provision of personal credit facilities are as highly developed as are the systems of commercial banking. The prevailing rate of interest paid by the farmers for the short-time loans is from four to five and one-half per cent. The terms offered European farmers are generally better designed to meet the peculiar requirements of agriculturists than are the terms obtainable today by the American farmers.

The personal credit organizations have the form of co-operative societies. As I stated before, very often the members of these societies assume unlimited liability for the debts of the society, while in other cases the societies take form of limited liability. As a rule, in European countries the law makes little or no provision for exemptions of any kind. These short-time credit societies furnish cheap, safe and elastic credit to their members by reason of their control by farmers and are organizations exclusively in the interest of farmers, who operate them at nominal cost and without seeking dividend profit to such societies.

Land mortgage credit has been organized so as to place a collective security back of bonds issued by land-mortgage societies in contrast with the system of marketing individual loans upon individual mortgages. Without discussing the form of organization employed for this purpose, it may be stated that the land-mortgage institutions bring to European farmers a low interest rate, but not any lower than the short-time credit societies; the privileges of repaying loans in small, fixed annual installments extending over a term of years—in some cases as long as seventy-five years under the amortization plan—although provision for the earlier payment is made if the borrower so desires; protection from advance in interest rates and the practical elimination of commission charges. Many of these personal credit societies and land-mortgage associations are fostered by government grants, loans or special provisions of law. Mortgage bonds issued by commercial banks and by private joint stock land-mortgage banks sell substantially on the same basis with like securities issued by government-favored institutions, and both classes of banks are recognized as needful in the development and conservation of agricultural resources. In many instances private and commercial banks purchase the securities of land-mortgage associations. Experience has demonstrated that such land-mortgage bonds are liquid assets.

The systems of land-title registration in countries possessing such mortgage institutions practically prevent dispute of title upon mortgaged land. Provisions are also generally afforded these mortgage institutions which eliminate undue legal delays in the recovery of loans placed with defaulting borrowers. Savings and trust funds are frequently invested in securities of such mortgage institutions under sanction of law. Loans up to fifty or even sixty-six per cent are made on lands of dependable value, and are considered safe and conservative and compare favorably with provincial and government bonds.

The American people are too free and independent; therefore I seriously question the adaptability of any such system to our conditions in this country, co-operation being the foundation of the foreign-loan system, while co-operation among our farmers has been tried often, and, according to my observation, to no great success. In Germany every thirteenth inhabitant is a member of one of these affiliated associations, and while all rural banks accept deposits from everyone, they will only lend to members who are properly endorsed by other members. Savings accounts in both France and Germany far outnumber those in this country, and the rate of interest paid is about three per cent. It is easy to see the source of the money loaned to the European farmer, while in this country, with its vast opportunities for speculation, our people, in a large measure, prefer to do their own investing in land where the possibility of large returns is so attractive.

Many Americans have for years advocated the making of farm loans by the government, which is a fallacy. The whole plan of government farm loans or government guaranty of farm loans, as in the case of the Saskatchewan idea, eventually will resolve itself into this: No government can make loans simply because it is a government. No government can rise superior to the economic laws which govern the value of money, and no government can fix an interest rate which will apply on all farm lands alike. To attempt to do this would be to invite disaster.

The cry for cheap money for the farmers is largely one by those who do not understand the situation. During the last year it is a fact that farmers in Illinois have been able to borrow money through the life insurance companies at lower rates than the big business men of Chicago have been able to secure it. The only reason why more thinly-settled sections have not been able to do this is that the local conditions do not warrant it, and this would be the same whether the government or a private individual attempted to make the loans.

It is my opinion that if we are to inaugurate a successful system of farm credit we should try to forget the methods employed by credit associations in Europe. What we should do is to try to comprehend the principles employed and seek to adapt them to American ideals, customs and governmental methods.

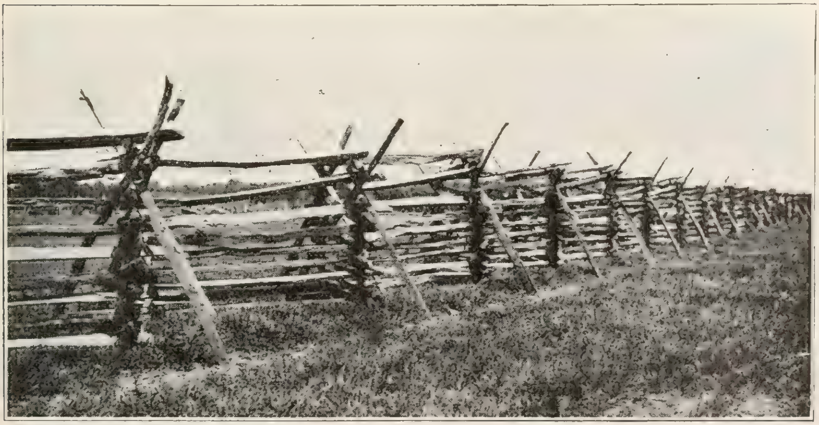
What is wanted is some method by which young men who wish to become farmers may offer evidence of ability, thrift and character. There is wanted some guarantee that the money will be used for productive purposes and sufficient supervision to determine that the money will be wisely expended. What is needed is some basis on which educated, hardworking, honest young men between the ages of twenty-one and thirty may obtain a reasonable capital with which to make a home in the open country. What is needed is some method of replacing the opportunity which formerly existed under the homestead act.

In endeavoring to make applicable any long-term mortgage system for this country the fact must be kept constantly in mind that the farmer of Europe operates under nominal expense as compared with the farmer in this country, as well as operates on a much smaller scale. The European farmer applies himself to a greater degree and is more scientific in the handling of his land products. While the average farm in Europe is small, varying in size with the different countries, about twice the yield is obtained per acre that is obtained by the American farmer, owing to intense cultivation and scientific methods. The earning capacity of the European farm is an established fact. That in turn establishes its value. So settled are the values that the basis of assessment for taxation purposes, which is made at one hundred cents on the dollar, is generally used as a basis for valuing property when granting loans. Among the most important advantages for facilitating loans on real estate in Europe is the title-registration law which, in effect, places the government behind the title to all property. Some modification of these title-registration laws could undoubtedly be made applicable to every state in the Union, and is highly essential to obtaining cheaper rates of interest on mortgage loans.

It must be understood that the method to be pursued in this country under existing conditions, should any long-term mortgage systems be devised, necessarily would be quite different from the European methods; the rate of interest to be paid by our farmers would of necessity have to be higher, because of the expense incident to appraisement; because of exemption and redemption laws; because of the general lack of title-registration laws, and the consequent need of abstracting and title examination; because of the necessity of safeguarding the loan by watching the security that has not such a stable or definite income-producing value over an extending period; and for the further reason that a market would have to be built up for this class of investment. Whereas throughout European countries this class of investment is now well established, their land mortgage associations having been in successful operation for over a century without a loss of a dollar to an investor so far as we could learn. However, I do not believe the need of the American farmer is so much for a low rate of interest on his mortgage loan, if he is furnished a reasonable one, as for a method that will give him a sufficient period to work out of debt by amortization.

Through operation of the long-term amortization loan system the European countries have revolutionized the land ownership, passing titles from large tracts of landlordism into small tracts belonging to the individual farmers, making permanent home owners out of former tenants. They have assisted in making farm life more inviting and in improving farm property to a high state of cultivation, thereby increasing the production of the land and, as a natural result, enhancing the value of the land itself.

If it is possible to devise some safe system for financing the American farmer on some safe plan, which contemplates the long-term amortization principle, I feel sure it would be much easier to build up our rural interests, ultimately placing more farm owners on our lands. In other words, if we can make easier the ownership of farms farmers will multiply. We would thereby assist the successful tenant to become a landowner, and the more landowners within a state the more stable and permanent its population, and the more stable and permanent its population the safer and more certain is invested capital and the happier and more contented its citizens.



RURAL SCHOOLS AND IMPROVEMENTS.

(C. H. Funk, Johnson county, Mo.)

C. H. Funk.

It certainly affords me a great pleasure to speak a word in behalf of the rural schools. We find the little rural schoolhouses dotted all over this country from Maine to California and from Canada to the Gulf. And it is in these rural schools that we have the material in the boys and girls on whose shoulders the responsibility will fall to carry out the future development of the greatest of all industries of these United States, agriculture.

The boys and girls of today will be the farmers and farmers' wives of tomorrow.

First, let us notice the rural school buildings, the greater per cent of which are built along lines that have been handed down for several generations, usually built on straight lines with window in either side, one end blank with door at the other. They present anything but pleasing appearance outside, and much less inviting or cheerful appearance inside. They are very badly lighted and poorly heated, and are without any ventilation whatever. Now this is a fair illustration of what ornamented our school site over in Johnson county, a few miles southwest of Holden, until last year. This is the district in which I was born, reared and am still living.

The old building had been erected something over forty-two years ago. It was twenty-four by forty-two with four windows on either side. A hall cut off of one end. The building had been formerly plastered and replastered and patched and ceiled and painted until it reminded me of the "old colored man's sock," which he said he had worn for forty years. Being asked how that was, he said "Missus footed the leg and then legged the foot, but they is the same old socks."

That was the way with our old schoolhouse. It had been "footed" and "legged" until it was anything but a picture of beauty.

There were several fruitless attempts to vote a loan, but they always met defeat until last spring election, or rather before the election, we got busy and by good teamwork got the voters out, and when the vote was counted we found we had carried five to one for the loan. The old building was built entirely of white pine and was all full in measurements. It was sawed in those early days before they acquired the habit of charging up for sawdust and shavings, as at the present day.

We first hired the old building wrecked at a cost of twenty-five dollars, the lumber cleaned of nails and sorted and piled, ready for the contractor.

For the new building we have a good concrete wall and cross walls, to support the floor. The house is thirty by thirty-six feet with an eight-foot space cut off of the south end for porch, cloak and library room. This leaves the schoolroom twenty-eight by thirty feet, seated the long way of the room. Heater is at one side, or rather corner, of the room. I should have mentioned that this building has a T-shaped roof, making three gables.

The outside is covered with one-inch storm siding building paper and best quality siding, the siding extending down over foundation, preventing water from getting in to rot the ground frame.

The inside is patent lath with two-coat plaster work and thirty-inch wainscoating metal ceiling. Flooring is edge-sawed yellow pine, treated with two coats of boiling oil. Library room and cloakroom are plastered, sides and ceiling. Library room is six by eight feet, having one window with built-in bookcase, with sliding glass doors at top and sliding panel door at bottom. The bottom part is ten inches deeper than the top, making a convenient shelf. The cloakroom is eight by fourteen feet, has double window in south, and coat hooks for wraps and shelving for lunch boxes. The porch is eight by ten feet and has concrete floor extending over cistern.

The seats are the best individual seats that could be bought. We have the Smith heating system, which is guaranteed to heat the room to seventy degrees in the coldest or windiest weather, and it isn't any warmer for a pupil sitting directly by the heater than on the opposite side of the room. It takes the cold, pure air from the outside, heats it and radiates it through the room. The foul air is drawn out at the base of the chimney, completely changing the air from three to fifteen times per hour, so we have a perfect ventilation.

We also have sanitary drinking fountain, which does away with drinking cups in any way and keeps a good, cool supply of water in the building.

In Johnson county there are one hundred forty-five rural schools. Of this number there are but seven modern, five only modern in both building and equipment.

Now about the second improvement—the course of study. I think the course of study for our rural schools should be so arranged as to make agriculture the central subject, with stock breeding, poultry raising, also the building of silos and soil fertility, home economics, etc., so arranged with the present subjects and making a ninth grade work.

It has been brought to my observation very forcibly just recently that the very best that many children could ever hope for in the way of an education is what they get in the rural school. Their parents are not able to give them a higher education, but the rural school may prepare them to combat the real battles of life by giving them a knowledge of the work by which they will make their living.

The third improvement I wish to call attention to is the teacher. We should have a qualified teacher, one who is competent to give the very best of instructions. I think the time near when a teacher holding only a third grade certificate will be unable to find employment in our rural schools.

It is not so bad for a teacher to teach one term on a third grade certificate, but to do as some have in Johnson county for fifteen, twenty and twenty-five years is certainly going the limit and should not be considered at all.

Now fourth, about co-operation. I think that parents should co-operate with their children, beginning when they are young to teach them to work, to take interest and pride in their work. Give them something for their own so they can make a little pin money for themselves. It makes them independent. Then teach them to invest their little savings. It teaches them to know the value of money. They will become interested in the stock, the farming, the chickens and the housework. It teaches them that your interest is their interest, that your business is their business. It encourages them in school work. It broadens their mind and will be the foundation of better manhood and womanhood. By co-operating with the boys and girls and making them your companions and partners in business you have their full confidence. Co-operate with the teacher. It gives her a better chance to demonstrate her ability as a teacher. Through co-operation with children, co-operation with the teacher and co-operation with your neighbors you will have a successful school, a credit and honor to district and county and State as well.

I know some parents who seem to think that the boy or the girl owes them a debt and they hold a mortgage on their lives, and should the boy or girl ask for any money these parents growl about how much they spend, which is about one dollar. When the boy or girl is about fifteen years old—or maybe they will stay until of age—then they are gone to make their own way, leaving the farm with its pure and wholesome surroundings, and going to the city where the lure of big wages and more pleasure attracts and where are temptations and pitfalls for their inexperienced minds. Is it any wonder so many fall by the wayside? Is it any wonder the farm is being depopulated today.

One more thought, and it is this: How are we to get our rural schools on equal basis, so that the boys and girls in one district may have the same advantages as those in another.

I believe that a county unit, or still better, a State unit of taxation, would solve the difficulty, the State to equalize the valuation and fix a tax by which every school would be put on an equal basis. By so doing it would give every boy and girl a chance to complete at least a ninth course, and as I have said, that the highest education some boys and girls can ever hope for is our rural schools. It not only enables them to wrestle with the problems of life, but will make better, broader men, and women with higher ideals.

MEANS FOR RURAL PROGRESS.

(Professor A. W. Taylor, Bible College of Missouri, Columbia, Mo.)

Prof. A. W. Taylor.

Others have treated specific parts of the general theme of this conference. It is my part to try to bind these various parts together and to show how they are interdependent and interrelated.

The farmer is the average man, and the average man is the best kind of a man out of which to make a nation. Picking up the picture of the farmer in his working clothes, Roosevelt struck the table with his fist and said, "That is the man I want to know." He is the man who makes up the bulk of the common people in the United States and his class is by far the largest in the country. President Wilson, scholar though he is, said he would not have experts and scientists in the executive departments of administration; he could trust the man of affairs to have better balanced judgment in matters of state. It is from the farm that our leaders largely come, and they make good because of the fund of common sense a boyhood of industrious life on the farm gives to men.

As the farmer thinks so the country ought to go, for we are still an agricultural country, notwithstanding the tendency toward the city. There is a tendency toward the city, but it is not so much against the rural regions as the face of the figures might lead us to think. In 1880 70.5 per cent of the population was rural; in 1890 it was 63.9 per cent, and in 1910 it was 53.7 per cent. Yet there was an actual increase in the number of people on the farms; the city did not quite absorb the gross increase of population. It was a relative increase over the rural districts; but the actual movement from the farm to the city is perhaps not over 10 per cent in a decade—that is, not more than 10 per cent of our farm folk go to the city each decade.

We do not need so many farmers as we did a generation ago. Then it took two men to create enough to feed themselves and the third man in the town. Now, with farm machinery, one farmer can feed the three. I have traveled among the country people of several European lands and everywhere it was the same—men, women and children working in the fields with hand tools. When some of us, now at mid-age, were boys on the farm a riding tool was scarcely known. Today one lad with four horses will do as much as three of us used to do. The machine has made the farmer a business man; he is thinking of his farm in terms of profit more than, as he used to do, as a permanent home; he is becoming less a working man and more a capitalist. The speculative features thus brought into farm operations is not altogether of salutary value.

President Wilson says that while the farmers were feeding the world Congress was feeding the trusts. A picture of the President's cabinet will show the faces of men several of whom were brought up on the farm, but not one of whom is now a farmer. So it is with Congress and the Legislatures. Their members are largely lawyers. The farmers are the largest class and their interests are greater than those of banking or manufacturing, yet the lawmakers are usually much more concerned with commercial and manufacturing interests than with farm interests; it is because the lawyer and average representative is a city man and sees commercial interests largest. Why do not the farmers send more of their own number to the Legislatures? Certainly they are the peers of many who go there from the cities. Our public domain was given away to the speculator and the corporation and the natural homes of the people forfeited to the speculative profits of rich men because we had no home makers in Congress who depended upon the land. So we practically built the railroads and then turned them over to skillful commercial manipulators who ran them for private instead of public interest, and charging all the "traffic will bear" increased capitalization enormously and now asks us to allow them to continue to make dividends on the inflated values, and some day will ask us to pay enormous prices to redeem the very rights of way we so freely gave away. In Germany the railroads are owned by the people and men ride for less than one-half what they pay in this country, and their freight packages are carried for the most part much cheaper because the roads are run as a public utility instead of as private enterprise. Here we have paid tens of millions to have our parcels carried by the express companies while in Europe the government has carried them for the whole people for a fraction of what we paid. The same is true of telegraph systems. All these are public utilities and the laws of competition do not apply to their operation. Because the laws of competition do not apply they became the mothers of monopolies, and the great nerves and arteries of our industrial and commercial life were turned over to private greed instead of being run for public benefit.

Competition is put forth as the law of the universe. It is time to nail that as a lie, said Frederick Maurice, one of mankind's greatest lovers. Competition has its part to play, but it is only one-half the process of economic life. Co-operation is the law of society; it is the law of brotherhood. Competition never begets brotherhood; it may benefit the individual and give strength to individuality, but we need to emphasize the social nature quite as much as the personal, and thus the need of more of the spirit of co-operation. The great corporations have discovered the utility of co-operation; every corporation is a co-operative enterprise. The principle is good, but the corporation tends to co-operate for the good of the incorporators, and all too often to the prejudice of the interests of all not in the corporation. What we need is a co-operation that will take in all who deal in the commodity, the buyer as well as the maker and seller. At least, if the maker and seller will co-operate to prevent competition between themselves and thus increase profits, the consumer—and the farmer is the greatest of all consumers—needs to co-operate to buy and to sell his raw product that he may derive the same sort of mutual advantage as well as deal on even terms with the powerful agencies to which he sells and from which he buys.

The farmer has been called a "rampant individualist," and there is too much truth in the charge. He needs to learn what the city man has learned, and that is that there is more profit in co-operation than in individualistic management of his affairs. In England alone there are 7,000,000 people who make their purchases at co-operative stores. The profits are saved to the purchaser. The greatest of our high cost of living factors, our Agricultural Department at Washington tells us, is the middleman system. It is built on the competitive plan and is cumbrous and wasteful. Up in Wisconsin and the Dakotas the Scandinavian Americans are practicing co-operation with signal success. In Denmark the rural sections have been made over from poverty to prosperity through co-operation and scientific farming. They have co-operative agricultural societies, creameries, packing plants, stores and shipping arrangements. The government inspects, stamps and guarantees the freshness and quality of the butter, bacon and eggs shipped to England and France and they thus top the market. The cost of brokerage is put into the hands of the producer. Co-operation, not competition, has remade rural Denmark. New Zealand is another illustration of the benefits of co-operation. The land was appropriated by speculators at first, but now the government prohibits absentee ownership of idle land by rich speculators and turns the whole patrimony of nature over to the home maker. The poor man goes into the clearing with money loaned by the government and begins to create his own home out of nature's raw gift to men. In Germany I saw many of the public markets where the producer and consumer met face to face and shared the profits of the broker and middleman.

Let us take a few illustrations of the cost of our system of distribution and see wherein there is such a large waste of profit between the farmer who tills the ground at one end and the man who labors at forge and machine in the city at the other end. President Yokum of the Frisco system found that the Texas truck farmer often received only from one-tenth to one-fifth of what the New York worker paid. For instance, he got six and one-half cents for the peck of potatoes for which the New Yorker paid 60 cents. It was the same on onions and even much worse on watermelons. In the city of Rochester it was found that it takes 356 men, 380 horses, 305 wagons and 3,509 miles of travel daily to supply the city with milk. Less than one-fourth of the number of men and wagons and of the amount of travel would do it under a co-operative system, and it would be much easier to maintain adequate inspection, thus insuring a pure food for the babes. The grocers and middlemen do not always get rich. There is scarcely a town that does not have twice as many grocers as it needs. But competition gives every man a fighting chance to make a living in delivering goods, and the greater the number in the game the more every one of them must charge to make a living. Thus many go bankrupt and most of them play no necessary function in the work of distribution. We doubtless need the element of competition, but we do not need to let it run riot with our sense of economy.

Scientific farming is the second means of rural progress upon which I wish to speak. In Germany I saw everywhere the women and children at work in the fields. Both there and in France the home farm of the peasant is small and the size of the farm will not allow the purchase of modern power machinery. But "necessity is the mother of invention," and Germany turned science to the use of the peasant. She increased her yield of wheat 48 per cent in two decades while we increased ours less than 6 per cent in the same length of time; she also increased her yield of barley by 51.8 per cent while we made a gain of only 8.8 per cent, and that of potatoes by 61.6 per cent while our increase was only 32.6 per cent. But we are learning. Our vast, unplowed domain and cheap land has kept us from turning to intensive farming and we have wasted much of our natural resource, but necessity is driving us to consider these things and education is convincing us of the value of them. The farmers of Wisconsin are saving $12,000,000 annually by spraying their fruit. A visit over to the Agricultural College is worth many talks upon this subject, so we will not tarry upon it. One of the greatest things to be done in Missouri is to learn to grow alfalfa. There are thousands of acres that are capable of making from $50 to $100 per acre each year with it, but we seem to lack patience and the willingness to make the temporary risk it requires.

Our next topic is one in which, above all others, Missourians are, and by necessity ought to be, most interested. It is that of good roads. The story is told of a community not far from Columbia where a small tax levy for good roads was being voted upon. The election day was in the early spring and the roads deep with mud. In the late afternoon three men rode in on the trucks of a wagon with four mules hitched to it and pulling with all their strength even then to get through. Some one offered to wager there were three votes for the proposition, but to his surprise they had pulled in in that manner in order to get to vote against ever having such conditions changed. The road drag and grader will make any road fairly good the year around. We waste most of our road money in puttering up the roads instead of putting in permanent improvements. I cycled in several of the old countries and found one of their greatest assets to be in their good roads. It put every man in easy touch with his market. Again, the spirit of co-operation is the first requirement and a willingness to pay taxes for the common good. What we need is not less taxation but better use of what we do pay and then a a larger vision of what would come to us all through more public taxation of the right kind.

With the good road comes the better school. We are proud of the little red schoolhouse. It was the nurturing place of our democracy and universal American culture, but it taught us how to be never contented with primitive vehicles of public good, such as it was. The country could have as good schools as the towns if they would pay as much, but when the town pays $1.00 school tax and the rural district only 40 cents as good cannot be expected. With good roads comes the centralized and well-graded school, and it actually costs less than the old-time, one-room schoolhouse, while trebling the efficiency of education, making it possible for the farmer's child to have a high school course and also keeping the boy and girl in rural surroundings and educating them in rural arts, instead of sending them away from home at great expense to be educated in city arts and thus be won away from the farm. The enterprise is not nearly so formidable as it looks; indeed, it is made comparatively easy now under our new law and the offer of State help; but it does require initiative and public spirit and it will never be done so long as the farmer is a "rampant individualist."

The farmer needs to talk over community interests more. When he comes to town on Saturday he talks with neighbors, in groups of twos and threes, the things of common interest. But it is usually things of less public and more private interest and much of the talk is social and merely the exchange of opinion and personal experience. Suppose he could have clubs and societies where matters of public interest could be talked over more. The schoolhouses and rural churches can furnish the centers. The townfolk meet daily and their daily papers and ever-open churches keep them close together. The farmer lacks these opportunities of free exchange of ideas and opportunities for mutual action. The country woman is just as sociable as the town woman, but she does not have the clubs and societies that enable her to turn her sociability into community action. Yet she is generally more of a housekeeper and has more things in common than the woman in town. She would find great profit in mothers' meetings. She is usually a superb economist and would profit by an exchange of experience of a more formal nature than the telephone allows. Governor Hughes told the people of Rochester, when he spoke in their social centers, that he was more interested in what they were doing than in anything else in the world, because in it he saw the very buttress and foundations of democracy. These social centers are in the schoolhouses. If the city can profit by them how much more the country? It is by such meeting together and talking over common problems that we make ourselves intelligent citizens. Gladstone said the men of the farm and workshops were the nation's foundation, and declared that in the labor unions of workaday England was the hope of democracy. He thought so because they get together and talk over public questions and enlighten one another and learn to act together for the common good.

In recreation we find another need of interest and co-operation in the country. You say his work gives him enough exercise; that the sawbuck is the best gymnasium. But you overlook the play side of boy and girl nature. That is by nature a social thing, and it cannot be met by toil but only by recreation and in games. The country needs field meets and contests and all sorts of public gatherings for the youth. Perhaps more young people go to town for the sake of play and association with other young people than for any other one cause. They find little diversion on the farm, and the lure of the city with its high lights and gayety is too attractive for them to resist. There is excitement and crowds and pleasure and the hope of riches. But few get the riches, and many get sodden poverty in the city and the pleasure all too often is that of the moth-and-flame variety. Give the farm children and youth more association and chance to play together and keep their interests in the country. Build neat homes as the townfolk do and lend to toil a flavor of human interest, and boys and girls will want to stay with the fresh air and beauty of the country. Teach them the excessive mortality of city life and educate them in farm lore instead of city ways and fewer will leave the farms and the ways of their fathers.

The first and most fundamental of all means to rural progress is that of co-operation. It is the nurturing spirit for all good things needed. It will save money and it will make money. It will help get good roads and will cultivate the community desire to get them. It will bring better schools, and once put to work in all community matters will bring to the farmer all that progress demands for him. The center from which it ought to spring is the church. It is deplorable that the one institution that should teach co-operation and fraternity so often destroys it by dividing good men into opposing camps over matters of creed. Suppose we united in matters of deed and made our religion a matter of works instead of opinion.

There would soon be an end of sectarian Christianity with its duplication of churches, its once-a-month absentee pastoring, and its general inefficiency, and the substitution of a community church that would unite men of common faith in the common tasks of righteousness and community betterment.

Photo by W. L. Nelson.

THERE IS MUCH OF BEAUTY IN RURAL MISSOURI.

Missouri Farm Management Association.

OFFICERS.

President—J. Ed. Hall, Lamonte, Mo.
Vice-President—Ollie Davis, Wellsville, Mo.
Secretary-Treasurer—R. S. Besse, Columbia, Mo.
Advisory Board—D. H. Doane, Columbia; F. B. Mumford, Columbia; W. P. Dysart, Columbia.

WORK OF THE ASSOCIATION.

(R. S. Besse, secretary-treasurer.)

R. S. Besse.

The Missouri Farm Management Association was organized in 1910 for the purpose of co-operating with and organizing those farmers in Missouri who desire help in their farm management problems. Many letters were coming into the farm management office from all parts of the State asking questions concerning their farm—rotation, marketing and labor problems. So on the basis of these numerous questions and from the requests for farm visits and assistance the association was formed with 75 charter members. It has increased its membership to date of January, 1914, to a total of 350 progressive Missouri farmers. For a time, until the membership became too large to be handled in this way, visits were made to individual farms and crop systems and rotation plans were discussed. The department of farm management, co-operating with the United States Department of Agriculture at Washington, worked through the association members in carrying on their work of investigation and demonstration.

The Farm Management Association, however, is now too large for one or even two men to handle the work by personal visits, so that portion of the work is being handled through correspondence only.

A labor bureau, through which the members may secure more adequate farm help, is a department of the association doing a good work. Many calls come from members desiring help and numbers of requests from men desiring work. Through the association these men are brought together.

The information bureau, through which many questions concerning the farm will be answered as thoroughly and quickly as possible, is another source of benefit for the members.

The Farm Management Association holds its annual meeting at Columbia during Farmers' Week, when plans for the succeeding year and general policies of the association are discussed.

BETTER UTILIZATION RATHER THAN GREATER PRODUCTION.

(D. H. Doane, professor of farm management, University of Missouri.)

There are four fundamental or underlying principles for successful farm management in Missouri. In the following these four principles will be stated and the last one briefly discussed:

D. H. Doane.

1. *The size of the business must be comparatively large.*—For general farming in Missouri we should have at least 100 to 160 acres.

2. *The farm operations should be diversified.*—The old saying, "Put all your eggs in one basket and watch the basket," may be correct as it applies to eggs, but it does not apply to Missouri farming.

3. *Man and horse labor must be productively employed throughout the year.*—This simply means that the farmer, his hired help and his work stock must be kept busy at a kind of labor that will bring a return.

4. *Soil, crops and stock have the broadest utilization.*—This principle has to do with the use of the product grown on the farm.

In discussing the last principle it would be well to look at a few concrete examples: Three years ago on one of our demonstration farms the corn yield in a particular field was 15 bushels to the acre. The corn had a catch crop growing in it. Fifteen bushels of corn at 50 cents a bushel would have made us a return of $7.50 per acre. This crop was so utilized that the return amounted to as much as though we had raised between 50 and 60 bushels of corn. In other words, what was lacking in production was more than made up, and certainly more easily made up, by the proper utilization of the crop that was grown. This was accomplished in this way: At corn-planting time the corn had cowpeas planted in it. We used the black variety, putting about three peas to two grains of corn, or about ten pounds to the acre. The peas were put in at the same time as corn, with a cowpea attachment to the planter. The two crops came on together, and during September the hogs were turned into this field. Before being turned in, however, they were shut up in a small pen and fed cowpeas that had been freshly cut in the field. This was done in order to teach them to eat the green peas. When they were turned into the field they grazed down the peas, corn and all, thus balancing their ration very satisfactorily and making the gain so economically that our final figures made it possible for us to make the statement made at the beginning. In other words, an acre of corn and cowpeas returned as great an income when hogged down as though we had raised 50 bushels of market corn. This shows how it is possible to make a small production yield a large return by the best of utilization.

On another demonstration farm the crop under consideration was rye and rape. Fall rye was sown with the rape in the spring, the two crops coming on together. The rye making the quickest growth, furnished pasture two to three weeks before the rape was ready. At that time hot and dry weather set the spring-sown rye back a little, and the rape came on vigorously. This combination made excellent hog feed, and it was on this field of forage crops that the fall litters were finished off during the months of April, May and June. Old corn was purchased at 60 cents a bushel and fed to the hogs on this field. After the hogs had been weighed out and sold and the returns figured up the following results were found:

The feeding period of these hogs is divided into three divisions, which we will call periods 1, 2 and 3. During the first period the corn and forage made a return in pork of $1.33 per bushel with the corn fed. During the second period, when the forage crop was still better, the return for a bushel of corn fed was $1.44, and during the third period, after the dry weather cut the forage crops somewhat, the return was $1.03 per bushel. In other words, the average return for the forage crop consumed during the time that the hogs were eating a bushel of corn was 73 cents. This allows full cost value of the corn of 60 cents.

In another instance the corn and cowpeas were planted together as described, and 152 head of western lambs were purchased the middle of September and turned into the cornfield. They grazed out the undergrowth, not bothering the ears of corn, and in 86 days they had gained 27 pounds, making a profit of $1.40 per head, after charging full value for all the feed consumed, freight, commissions, interest on investment, loss and other items of expense. In other words, the profit on the lambs was as great per acre as the profit on the corn.

Another farmer found that better utilization came to him by handling his wheat in such a way that he doubled the sale value of it. At threshing time, instead of hauling his wheat to the mill and getting 75 cents a bushel for it, he hauled it to the barn where he graded and cleaned it, and then sold it for seed at $1.50 a bushel. In other words, the work put in on this purebred Fultz wheat used in preparing it for market was from one-fifth to one-tenth as great as the labor expended in producing the wheat, while in each case the receipts for the two classes of labor were the same. In other words, he would have received only 75 cents a bushel if he had sold from the threshing machine, and for the extra few days' labor of getting it in good seed form he received the same price per bushel. Profit on the last kind of labor was far greater than that on the first.

THE BOYS' DEPARTMENT AT FARMERS' WEEK, 1914.

(R. S. Besse, in charge.)

Four years from this date it is not impossible or even improbable that Farmers' Week of the old type will take on a new aspect in which farm boys will predominate. Indeed, we would not go far wrong to believe that even now in the process of evolution can be seen the "Making of Farmers' Week a Boys' Week." Even in the face of the fact that Farmers' Week this year was the very biggest and best ever held in the State,those attending and associated with the work agreed that the influence of the "Boys' Department" was felt.

An attendance of more than 2,000 farmers from Missouri and many other states—the record for 1914—speaks volumes for the Missouri farmers, the work of agricultural education and the institutions representing such education. But one thousand boys from Missouri farms, representing the young blood of the State, will have a far greater influence on Farmers' Week and what it stands for than the same number of grown-up men.

The question may legitimately be asked, "Where can we find a thousand boys and, having found them, what inducements would bring so many to our State agricultural institutions?" The answer is easy. Thirteen Missouri counties today have farm advisers, men who are devoting their entire time to the development and promotion of improved agriculture and better rural life. They all admit a more eager response from the boys and girls of the farm than from the older persons. It is unreasonable then to believe that these counties in one way or another, through contests and prizes of different kinds led by the farm advisers, could send fifty of their choice youth to the Farmers' Week school? We do not think this is unreasonable, for this year, 1914, Johnson county with but little effort, under Mr. Long's direction, brought twenty-two boys to attend the school.

On the other hand, this work is by no means limited to counties having farm advisers. Every county in the State could, by a simple series of contests, conducted or planned by some public-spirited citizen, send from four to ten boys to the Farmers' Week school at Columbia. In this way the one thousand mark could soon be reached.

Having found the boys and arranged for their expenses, what would be their reception at Columbia? A resume of the boys' department this year will give the plan and an idea of the work as started. This was the first school of its kind ever held in Missouri and, to our knowledge, ever held in the United States. Nine counties were represented as follows: Johnson county, 22 boys; Buchanan county, 15 boys; Marion county, 12 boys; Adair county, 5 boys; Pettis county, 3 boys; Dade county, 2 boys. Five of these counties have farm advisers. One, Adair, has not. Any boy from twelve to sixteen years of age was eligible to attend the school.

A special daily program, consisting of lectures, demonstrations, contests and amusements, was given. The program follows:

POPULAR LECTURES FOR BOYS.

"Education of a Man," F. B. Mumford, dean of Agricultural College.

"Better Bodies for Better Boys," D. H. Doane, professor of farm management.

"Our Boys' and Girls' Clubs," O. H. Benson, United States Department of Agriculture.

Illustrated lecture for boys and girls, J. C. Whitten, professor of horticulture.

"The Boy and Modern American Life," M. A. Hart, pastor of the Christian Church, Columbia.

"The Rural School and the Boy," R. H. Emberson, professor of rural education.

"Just Boys," J. D. Wilson, farm adviser for Cooper county.

DEMONSTRATIONS.

Corn judging and testing, T. R. Douglass; live stock judging, S. T. Simpson; soil testing, C. A. LeClair.

JUDGING CONTESTS.

Dairy cows, hogs, beef, cattle and corn.

AMUSEMENTS FOR BOYS.

Two hours each day devoted to play under the supervision of Prof. O. S. Fields, playground specialist.

Special sleeping and eating quarters were reserved for the boys. In this way they were kept in large groups under the supervision and instruction of a special guide, who showed them the University grounds and buildings and took them over the University farm.

The contest work was a feature of the week, the following boys winning in the stock judging contest:

The boys learning to judge live stock.

Draft Horses.

1. Ivan Hutchison, Kingsville, Mo.
2. Chandler Spitzer, Kirksville, Mo.

Hogs.

1. Earl Maxwell, Kingsville, Mo.
2. Frank Wells, Centerview, Mo.

Cattle.

1. Marion Kephart, Holden, Mo.
2. Lyman Isaacs, Faucett, Mo.

Sheep.

1. Worth Lawson, Kirksville, Mo.
2. Nelson Russell, Chilhowee, Mo.

The winners in the corn judging contest were as follows:

1. Robert Hook, Halls, Mo. Prize, $20.00.
2. James Connor, Kirksville, Mo. Prize, $10.00.
3. Harry Landis, Hannibal, Mo. Prize, $5.00.
4. James Briscoe, Oakwood, Mo. Prize, $2.50.
5. Nelson Russell, Chilhowee, Mo. Prize, ribbon.

Although he is a willing worker, a boy is not a tireless machine that would work hour after hour in a monotonous grind without becoming dissatisfied. Consequently, it was planned to mix play with their work. At night they went to the picture show, basket ball games and other entertainments. At a certain time each day they would gather at the gymnasium, where they were placed under the direction of a "play specialist." This phase of the week is indicated in the photo shown in connection with this article.

Learning to play, a training badly needed in rural communities.

The outcome of the boys' department exceeded all our expectations. The lively spirit with which they took hold of the work and play indicated their real enthusiasm and delight in such work. Every little fellow did his utmost to co-operate in making the week a success. Their feelings and impressions are reflected in the ideas they expressed by a unanimous vote to return next year, if possible, and to lay plans to attend the Agricultural College.

We firmly believe that there is a great future for the boys' department of Farmers' Week, and believe implicitly in its ability to reach the people in a broad way out over the State.

WHAT FARM RECORDS SHOW US.

(O. R. Johnson, assistant professor in farm management, Missouri College of Agriculture.)

A study of the illustration of an account here given will show us the essentials of a complete record of the farm enterprises. One of the first values we derive from a record is the learning of what constitutes receipts and expenses. Under expenses we have the following: Labor, feed, and incidentals like veterinary fees, shoeing, medicine purchased, seed used, fertilizers, etc. Under receipts we have the meat or crop produced and such by-products as milk, butter, wool, eggs, manure, etc. In addition to the above, we have expenses which we sometimes call "overheads." These include interest on investment, taxes, depreciation, the upkeep of fences, buildings, tools, etc., and a few others. These indirect expenses must be distributed to the various farm enterprises for the year. In other words, the enterprises, in addition to paying all direct expenses, must pay these indirect expenses also if they are profitable operations.

To get all expense items for the year we must have three kinds of records—financial, or cash receipts and expenses, labor, or work put in on the different parts of the farm, and feed fed the different classes of stock. You will notice that in the illustration given all three of these records are used.

In addition to showing us what the receipts and expenses of an enterprise are, the records show us, first of all, which enterprises are making us a profit and which ones are proving unprofitable. We would not consider for a moment carrying a farm enterprise which does not pay its way in some form. We probably will not know whether an enterprise is paying us for our work—paying interest on investment and giving us any profit in addition, unless we have some such record of that enterprise. After we have studied our different enterprises from the standpoint of profit or loss a closer study will give us the factors which determine that profit or loss. We have found, for instance, that a farm horse works about twelve hundred hours per year on an average—one hundred hours per month. If it costs ninety dollars per year to keep that horse, our labor will

Hogs

EXPENSES				RECEIPTS			
Date		$	¢	Date		$	¢
1912 Mar. 1	To Inventory	460	00	1912 May 14	Sold 20 hogs @ 7¢	280	00
Apr. 10	Veterinary fees	8	50	Nov. 21	" 31 " @ 6¼¢	387	50
" 16	Bought male pig	15	00				
Sept. 2	" medicine	2	50				
Feb. 28	Labor for year	36	48				
" "	Feed " "	136	00				
" "	Interest on Inv.	21	37				
" "	Taxes	2	25	1913 Mar. 1	To Inventory	395	00
" "	Gain	380	40				
		1062	50			1062	50

cost us seven and one-half cents per hour. If our horse only works one thousand hours per year the labor cost would be increased to nine cents per hour. Our records will show us that there are many of our horses that are not working even one thousand hours per year, and this means a large increase in the cost of the work which those horses are doing. This will cause us to make an effort to so plan our work that we can use our horses a maximum number of hours per year. One farm showed by its record that there were many weeks during the year when the horses did not work at all. It does not take many such weeks to make the labor cost run up pretty high.

A similar study can be made of the work which our men put in. If we have a workman on the farm it is very important, from the standpoint of the cost per hour of his work, that he put in full days and regular time. We will find many days when we do not even put in one-half time. The average time put in per workday on some Missouri farms, where the men are hard workers and work probably as long days as any of us would care to, was nine and nine-tenths hours. This does not bear out the statement that we work twelve or fifteen hours per day on the farm. This is due to the fact that there are many days in summer and winter that we do not work very long. If we expect to get our labor at a minimum figure we must expect to use that labor a maximum number of hours per year, for it costs just so much to hire a workman. The cost of man labor under average conditions, where the wage rate is from twenty-two to twenty-five dollars per month and board, is about fourteen cents per hour—the average workman working about three thousand hours per year.

Another thing which the record will show us is the importance of the labor cost in connection with the growing of farm crops. The labor cost is the largest single item in connection with farm crops, and many of us do not charge our crops average wage rates for the work we put in on them. The cost is about $14.50 on one hundred-dollar land, with money at five per cent to grow an acre of corn. More than one-half this charge is the labor charge.

With man labor costing us fourteen cents per hour and horse labor between eight and nine cents on the average farm, we can appreciate the importance of one man working a good many horses and using large tools, thus saving man labor because of its expensiveness.

Were time allowed there are many other things which we might show from a good farm record, but the above will have to suffice and, I believe, it shows to a sufficient degree the vital importance of some sort of record in connection with farm operations.

SHEEP FARM MANAGEMENT.

(R. S. Besse, assistant in farm management.)

In the Farm Management Association many of the members are taking advantage of our plans for lamb feeding. The plan, while not altogether new to everyone, will bear repeating at this time and some concrete examples and experiences given.

GROWING THE FEED.

Cowpeas in the Corn.—Cowpeas are planted with the corn in the hill at corn planting time. This is done by the use of a cowpea attachment on the corn planter. The peas, being a warm weather plant, will not do well in cold soil; consequently, when planted in this way it is necessary to wait until the ground has warmed up before planting the corn. The corn is cultivated in the usual manner. The Blacks, Red Rippers, Clays and Whippoorwill peas are best for this purpose. A vining variety should be used. On fairly good soil the peas will begin to form a considerable undergrowth by laying-by time of the corn, and not long after a dense growth twining around the stalk and nearly covering the ground will be found. The peas should be sufficiently mature to turn in on them by the middle of September, depending somewhat, however, on the location, season and varieties of peas planted. They should pasture seven to ten head of lambs per acre, depending upon the density of the undergrowth.

Rape.—We have found rape to be an excellent feed in finishing lambs for the market. Furthermore, early frosts kill the remaining cowpea undergrowth and most likely before the lambs are ready for market.

The rape may be sown between the rows of corn at the last cultivation with the use of a one-horse drill. About an equal acreage of rape and cowpeas is needed when sown in this way. The rape may also be planted on clear ground, in rows wide enough apart to be cultivated. This should be done in the spring and a big, heavy growth obtained by turning-in time after the first frost. When handled in this way three acres of rape will finish one deck, or about 150 lambs. This method is the most certain of results.

THE GENERAL PLAN.

Western lambs are purchased from the market some time in the fall, brought to the farm and fed on short grass for a day or two until they become used to the new conditions. They may then be turned into the cowpeas for a few hours each day until thoroughly accustomed to this new feed.

WHEN TO BUY.

The time to purchase lambs will depend largely upon the condition of the cowpeas in the corn; also the market conditions. The lambs should be bought, if possible, when the peas are ready to feed. Many buyers do not go to the market to obtain their lambs. They decide accurately the class, grade and weight of lambs desired, stating maximum price they will pay and the approximate date delivery is preferred. In fact, all our Farm Management Association members do is to call for "Farm Management Association Lambs," and to date we do not know of a single instance where entire satisfaction has not been given.

WHAT TO BUY.

Western lambs with a Merino foundation are excellent for this method of feeding. They are hardy, free from stomach worms, uniform in appearance and of light weight. These points are of material advantage to the feeder and will tend to decrease the usual loss of lambs in feeding. "Farm Management Association Lambs" is a trade-mark established and used by our members in buying feeders, and with some excellent results.

The following figures are compiled from reports made by our co-operating members, five of them being selected at random. For convenience, sheep fed by different parties are designated as lots 1, 2, 3, etc.:

REPORT OF SHEEP FARMING OF THE FARM MANAGEMENT ASSOCIATION IN CO-OPERATION WITH ITS MEMBERS.

	Number purchased.	Cost per pound.	Length of time kept. months.	Average weight.	
				Buying.	Selling.
Lot 1	260	$6.43	3	58¼	75
Lot 2	248	6.25	2	54.6	68
Lot 3	141	6.25	2½	52	71
Lot 4	100	6.25	2½	52.5	70
Lot 5	158	6.20	2½	54.5	70
Averages	907	$6.27	2.4	55	71

	Total cost of buying.	Total cost of selling.	All costs, buying, feeding, selling.
Lot 1	$1,029.00	$71.45	$1,274.50
Lot 2	888.51	63.20	951.71
Lot 3	508.86	39.20	548.86
Lot 4	363.30	37.32	400.62
Lot 5	574.56	37.60	612.16
	$3,364.23	$248.77	$3,787.85

	Selling price per pound.	Gross receipts.	Net.	Net per head.
Lot 1	235 @ $7.90—15 @ $6.50	$1,458.70	$184.20	$ .71
Lot 2	219 @ 7.90—25 @ 6.25	1,206.56	254.85	1.04
Lot 3	141 @ 7.65—	732.04	143.98	1.02
Lot 4	98 @ 7.80— 2 @ 6.00	551.64	156.75	1.06
Lot 5	138 @ 7.75—20 @ 5.75	819.72	207.56	1.31
	831 @ $7.80—62 @ $6.12	$4,768.66	$947.34	$1.13

While these figures do not picture any extraordinary results, they wedge themselves into a farm plan as a profitable side income. The operation has not only netted $1.13 per head after paying for the feed, labor and interest on the investment, but has encouraged the planting of more cowpeas on the land and turning them back into the soil in the very best form.

MY PLAN OF FARM MANAGEMENT.

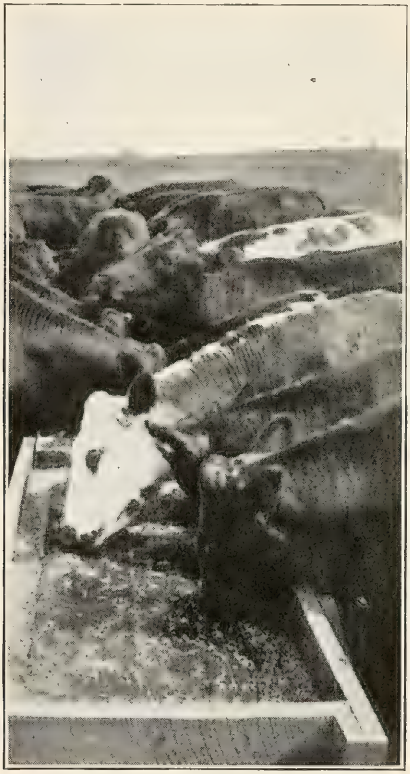
(W. O. Redford, Fayetteville, Mo.)

O. W. Redford

I was invited by the program committee of this good farmers' meeting to tell you of my plan of farm management or manner in which I have handled my business to enable me to buy and pay for about 1,200 acres of good land.

Before I proceed with my talk I want to say that I have met with conventions of bankers, druggists, teachers, commercial clubs—and even Democrats; but no class of men look as good to me as the Missouri farmers who meet with us here each year at Columbia. They are enthusiastic, good-natured, well clothed, and I was about to say well fed, but from the way some of us have shed the hair from the tops of our heads in midwinter, it would seem that we have not been eating a balanced ration. You can readily see that I am not a speaker and have no special aspirations in that direction. My desire is to be a better business man, better farmer and better citizen. My talk to you will be very informal and brief. I am what one would call a diversified farmer. I never like to put all my eggs in one basket.

I will ask you, if you please, to make a mental picture placing me with my little family in about the center of a thousand-acre farm, with the very best people in the world living all around for neighbors. For convenience, we will make an outline and divide this farm into two parts. The first part, about five hundred acres, is in permanent blue grass pastures of about eighty acres each, fenced to turn any kind of stock. On all our land we practice what I will call a stock rotation, which, by the way, is just as important in stock farming as crop rotation is in grain farming. In this stock rotation we handle mules, cattle, hogs, sheep, horses, jacks and jennets and poultry. I place my mules first because we have more money invested in these than in any other branch of the business. Each year since I have been farming I have bought a bunch of mule colts, and since the first bunch was grown and ready to sell I have had a bunch to sell each year. I go through the country and buy these colts from the farmers in the fall. I cover about three counties in buying forty colts, buying on an average about one each day.



Preparing to market corn "on foot."

This may seem rather slow to some of you, but I do not spend all my time on the colts, as I will explain later. I go into a community where I know there is a good breeding jack and some good, heavy brood mares and there I can most always find and buy good colts. After one works a certain territory he learns where these good mares are kept and he has easier sailing. A man who owns a good colt is interested in them and can usually tell you where there are others. These colts are contracted to be delivered sound at a certain date—usually about the first of October. By that time the grown mules have been fattened and sold to the sugar trade in Louisiana. I have sold direct to the same planter for about fifteen years, thus cutting out the middleman's profits each year.

When the colts are delivered they are put into a darkened stable, well bedded with straw, plenty of good water and all the little delicacies to eat they could wish for except the mother's milk. I buy only mare mules of the sugar type. They become quiet in about a week and are then turned out in the pasture during the day unless the weather is very stormy. They are put in the barn every night and fed liberally on oats and clover hay with a little corn. There are two ways of handling these sugar mules—one to keep them on grain feed both summer and winter and mature and market them in the fall after they are two-year-olds in the spring. The other way is to break them when they are two or coming three years old, work them in their three-year-old summer, fatten and sell in the fall. The latter way is the one we usually follow because we need their work. We change our teams every year but keep the same names. Last year we sold 40 three-year-olds for $225 each and 40 two's at $220 each. If we did not need them to work I think the two-year-olds make the most money. Handling them in that way is a kind of "baby beef" proposition. Before these mules are loaded to go south we give them a small brand "R" on the left jaw. They make the journey of 1,000 miles unattended and usually get through in pretty good condition. I wish I could spend my whole hour talking and praising this much neglected beast. It was neither cattle, hogs, horses nor sheep, but mules that have made Missouri famous.

While I am passing through the country buying these colts I always have my eye open for good high-grade calves of the beef breeds. I usually buy 50 good calves every fall, and I am about as particular to get a good kind of calves as I am about the colts. These calves are wintered well and kept growing for a year. We begin feeding them shock corn as soon as the grass is about gone. In February or March of the spring they are two years old; they are put on feed and are fed on grass during the summer till they will bring $100 per head, then sold. This rotation gives us about 150 cattle and 120 mules on the place most all the time. We keep a few good cows to milk and raise roan calves.

We keep about twenty brood sows from which we figure on raising from 100 to 120 pigs twice each year. These hogs are fed out along with the mules and cattle. As soon as we sell a drove of fat hogs we have another bunch of feeders on the other side of the lane squealing to come across to the feed pasture. If I were forced to handle only one kind of stock I would take hogs every time. The breed one handles is just a matter of taste. I always try to handle the kind of animals that "look good" to me and such as I think will give me a little satisfaction and pleasure every time I see them eating their feed. I sell about three old sows each year and keep an equal number of my choicest gilts for breeding. In this way I keep a thrifty bunch of sows.

Putting money in both banks, the one in town and the one on the farm—the soil.

We have been keeping about 100 good Shropshire ewes from which we expect to raise about 100 early lambs each year. About fifteen or twenty of the best ewe lambs are kept for breeding and the same number of older ewes sold. In this way we never have any old sheep to sell as culls. This year stomach worms bothered my sheep so much that I sold the entire flock and bought 125 good young Utah ewes which I expect to use two years, then replace them with a fresh bunch.

Our horse stock is composed of some good, heavy draft mares which do the slow, heavy work, such as plowing with the gang plow and pulling the manure spreader. These mares are bred regularly and their mules help to make a start on a bunch of colts each year. When these mares are a good age I sell them and have some more fillies growing to take their places. These filly colts are bought with and run with the mules. They act as a kind of chaperon. Much of my time is spent in the saddle, so I have two good mares of the Denmark breed which keep me well supplied with saddle stock. I break and train these saddle horses and always have a buyer when I get ready to sell them. Some one may ask, what do you drive? Well, when the roads are so I can't use a car I drive a pair of good black mules. I have two little girls and they wanted me to buy them a burro to ride to school. To satisfy them I bought each of them a good jennet colt. I expect these jennets to raise enough jacks to send these girls to college. I have good reason to believe they will do it, because I have sold $800 worth of produce from one of them this year.

The poultry business belongs to my wife. Just here let me say that I attribute much of our success in business to her. I think that every good farmer's wife, who does her share of the work without complaint, will surely receive a high seat in the next world. As Mrs. Redford is not here I will tell you how she happened to go into the fine chicken and turkey business. Several years ago we were attending the State Fair, and while there I bought some imported Shropshire rams for which I paid what she said was an extravagant price. So she said, "I am going to the poultry show at Kansas City and get me some chickens and turkeys that are just as good as you think your sheep are." I replied, "I am perfectly willing." When the time came to go to Kansas City she asked me if I would go with her. I said, "Certainly, if you will pay my expenses as I did yours at Sedalia." She agreed, but I had been to the city with her before, so I slipped some money into my pocket. We had to pass the shops before we got to the poultry show in Convention Hall. She was broke. I had to buy the poultry.

No farm can be an entire success without a well-managed farm home. The cultivated portion of our farm comprises about 500 acres, upon which we practice a grain rotation of corn, wheat or oats and clover. It is our aim to have about 160 acres of each of these three grains each year. We sow 80 acres of clover each year, and as it lasts two years we have 160 acres either for hay or pasture, or both. This clover is cut and put into five large barns on the place and fed to the stock during the winter. The second crop is cut for seed, which usually pays very well for the handling. You will pardon my telling that our clover seed won the blue ribbon here at Columbia this week. This was a very favorable season for the growth of clover seed. Eighty acres of clover sod are plowed each fall for corn the next year. This gives 80 acres sod and 80 acres of second-year-out-of-sod for corn each year. The corn in field of the second year out of sod is cut and shocked and this ground sowed in wheat.

This same field and the one preceding it in the rotation are put in wheat the next year. The second field is sown to clover. Sometimes part of this wheat land is saved for oats, which does not interfere with the rotation. The stock is kept on this cultivated land as much of the time as possible. We use a great deal of wheat straw in the barns for bedding and make from 600 to 1,000 spreader loads of manure which is returned to the fields during the year. I think that by these methods our land improves in fertility each year.

The ultimate aim of all this work, aside from the satisfaction we get out of it, is money that is easy to rotate, but if you don't watch it will just radiate. Some of the money will have to be put back into young stock, hired help, machinery, feed and general expenses, but it is well to have your plans made for part of this money to be put where it will not get away. I have spent my surplus for land. Each year since I have been farming I have either bought a piece of land or made a payment on one. It is always a good plan to have some money handy or something you can turn into money, so if you have a chance to make a good loan you can do so. Please don't understand from the foregoing that we live altogether for money. We try to live well, take some time for pleasure—a trip occasionally seems to do us a world of good. We are for anything that makes ours a better place in which to live.

HOME GARDENS, FIELD CROPS AND HOME CANNING FOR BOYS' AND GIRLS' CLUB WORK.

(O. H. Benson, specialist in charge of club work, United States Department of Agriculture.)

For nearly a quarter of a century the organization of boys' and girls' agricultural and home-interest clubs has been under way in the United States, but the movement, though a worthy one, suffered many reverses and, like the history of ancient dynasties and monarchies, they have had their "rise and fall." This was governed very largely by the coming and going of county superintendents, teachers and other local leaders and the lack of continuity in leadership.

CLUB WORK ESSENTIALS.

Club work to be constructive and successful must have:

1. A practical plan that contemplates a demonstration of good farm and home practices and a net profit on investment

O. H. Benson giving a fruit canning demonstration.

for time, money and energy to each club member. This makes every member a prize winner, and the entire agricultural community will then benefit by the demonstration.

2. Well prepared leaders in the states, whose duties are to inspire, organize, instruct and direct the club activities at all times of the year.

3. A carefully prepared system of "follow-up" instruction for each club project and transmitted at a seasonable time in small installments during the year.

4. A system of instruction in bookkeeping as outlined in the usual annual crop report blanks.

5. A local fair or club festival, where the play contests related to club work can be executed and where club members, through the crop and products exhibits, may have opportunity to study the practical results of the county club demonstration at close range.

EVIDENCES OF GOOD CLUB WORK.

(After several years work.)

1. Increased interest and enrollment from year to year.

2. Increased acreage, yield and net profit to club members for each succeeding year.

3. Increased number of club members remaining in the club projects for a period of years, and projecting their interests and activities into other farm and home activities.

4. A larger number of young people in attendance at agricultural college and other institutions of learning and the return of a larger number to rural life as farmers, home builders and local leaders.

5. Improved members, homes, schools, roads and greater interest in the broader, social activities of farm life.

6. Increased financial support to the club work, because of tangible results shown by the work and its direct benefits to agriculture and the American home.

The above six points can be applied to twenty-five states now promoting the club work through regular paid and delegated leadership on a national or federated basis.

WHAT IS CLUB WORK?

Club work is the organization of boys and girls into local groups for the purpose of demonstrating what is right in farm and home garden practice, and such an organization contemplates officers, monthly or semimonthly meetings, and the careful study of a complete farm, garden or home-interest operation for an entire cropping season or school year. This is illustrated by the acre corn clubs, poultry clubs, home garden and canning clubs, good roads clubs, potato clubs and the alfalfa clubs. In all club activities the main interest is upon the farm, in the home gardens and in mother's kitchen, and necessitates the careful study of instructions, making observations, keeping records, making exhibits, and, in short, to demonstrate that business practice is important in all farm activities.

SPECIAL CONTESTS.

All exercises conducted in connection with the regular club work at the public schools, county or State fairs, fall club festivals, etc., which can be undertaken in a few minutes, hours, or even a few days, and completed, may be correctly classed as contests. Contests are important in that they arouse interest and spur contestants on to do better the more important job of completing the season's work in connection with the club work.

SOME OBJECTS OF CLUB WORK.

1. To offer to the young people of rural life influential guidance which will lead eventually to a better type of American farmer.

2. To demonstrate through the boys and girls what is right in farm and home practices.

3. To enlist the interest and efforts of the boys and girls in the problems of greater efficiency and economy in farm and home interests.

4. To demonstrate the best methods for the elimination of waste in orchard, field and garden.

5. To offer to the young people the proper leadership and direction for their own personal conservation as well as the conservation of the best American agriculture.

SCHOOL CREDIT FOR CLUB WORK.

It is urged that as far as possible the superintendents and teachers in charge of the school systems of state, county, city and local schools will plan to recognize real achievement in club work by giving recognition by means of credits to all who enter club projects and follow instructions, keep a complete record and show a net profit on investment for the season's work. This can be done in two ways:

1. By grading the club report and the written essay on "How I Made My Crop," presented by club members, and accepting this in lieu of a written examination in the work in elementary agriculture or home economics.

2. By grading the papers on a basis of 100 per cent and accepting the grades in this report as a substitute for some other subject required in the school course.

LEADERSHIP.

The club leader of a State, district or community should be one of the best trained men or women available for this work. They should be endowed with a liberal amount of common sense. It is also important that the club leader has had public school and, if possible, the experience as county or state superintendent of schools; he will need a broad, educational viewpoint that will make it difficult for him to be academic in his leadership of the boys and girls in this work.

A club leader who is constantly diverting the boys and girls from the practical and vocational viewpoint to the academic and the classroom exercises is simply doing the thing that will increase the "bookishness" of our present system of education and will add more textbooks and class periods rather than redirect and reinforce the school as a factor for and toward the home and farm.

If possible, club leaders should be selected from the class of people who have made good in the local leadership work of organization, supervision and follow-up work with boys and girls, and such leadership should be judged by the high percentage of results at the end of the year.

CO-OPERATIVE RELATIONS.

The slogan of success in practically all lines of human endeavor is summed up in the two following expressions: "Point of view" and "teamwork."

There should be a wholesome, co-operative relation existing between all club leaders, beginning with the rural teacher up through the county agricultural agent, county superintendent, State superintendent, State and district club leaders, and on to the national leaders.

The policy of the boys' and girls' club work, as announced from the Department of Agriculture, has been first of all to recognize the State College of Agriculture through its extension department, and this State institution in turn to recognize the State Department of Education, the county superintendent, the county farm adviser and the local teachers. In this way teamwork and a federation of influence and power for good is possible that will guarantee success to every club project within the State.

It is also important to invite the co-operation of granges, federated women's clubs, business men, the public press, and utilize as many different forces as possible in order to get the favorable public sentiment, the follow-up work and the encouragement so essential to success in this line of work. In counties where a farm bureau has been established and a county farm adviser put in charge of the work the county superintendent will find it very much easier to make a success of the club work.

LOCAL ORGANIZATIONS.

The best time to form the local clubs is during the school year in late fall or midwinter. The smallest unit of club organization should be the school district or community center. The club work should be presented and members secured, then the president, vice-president, secretary, treasurer, program committee, bookkeeper and local adviser of clubs or home gardens should be selected. The superviser of the club gardens or local leader should be an older person.

Arrangements should be made to hold one or two local meetings of club members each month during the year, at which time a special program of recitations, music, debates, discussions, conferences, etc., can be arranged.

CLUB PROJECTS.

The few club projects to be undertaken in any county or State should be determined very largely by the following:

1. The kind of club work that would be best adapted to the locality and will give at the same time the best returns for time, money and energy invested.
2. The interest and cultural value possible to the club member through a particular club activity.
3. The character and peculiar needs of the club members to be enlisted in the work.
4. Before selecting a club project it is important to determine whether there will be a market for the products so as to make the work profitable, and also if the demonstrations as conducted by the club members will have the effect of introducing into the State or community the best things for agriculture and the home interest.

The following list of club projects will offer an interesting and wide selection for the entire United States:

The home garden and canning clubs.
The canning and marketing clubs.
Corn clubs.
Potato clubs.
Good roads clubs.
Baby beef clubs.
Pig clubs.
Poultry clubs.
Apple clubs.
Alfalfa clubs.
Wheat and bread clubs.
Back yard clubs.
Sugar beet clubs.
Market garden clubs.

The governing principle in the selection of the club project should be its ultimate relation to good farm and home practice.

SOME REQUIREMENTS IN CLUB WORK.

The question of securing suitable prizes and premiums for the encouragement of the boys' and girls' club work is easily solved when we appreciate the fact that the less we emphasize this particular phase of it the more the club members will understand that to make a net profit on the investment is, after all, the one prize worth while, and makes every club member a prize winner.

Few and large cash prizes should not be recommended. It is very much better to offer small and many prizes in the form of good books, medals, pennants, farm and home equipments such as thoroughbred stock, poultry and pets; free tuition to colleges of agriculture, short courses, and other institutions of learning. If the State Fair conducts and supervises a school of instruction for club members and young people, a free trip with expenses paid to this school would be a worthy premium to offer for achievement in club work.

If free trips or educational excursions are to be offered they should be limited to the champion in each club project, and such a trip should always be supervised and champions accompanied by a leader who will look after every interest and comfort of the club members in the party.

Ordinarily the age requirement in the boys' and girls' club work should be from 10 to 18, inclusive. The club members in any community should be divided into two classes, the children ranging in age from 10 to 15 in A class, and those from 14 to 18, inclusive, in B class. The prizes and awards should be made separate to each class, as it is hardly fair for a ten-year-old child to compete with an eighteen-year-old boy.

This should ordinarily be determined by the following four points:

1. Yield.
2. Profit on investment.
3. Crop report and story of club work.
4. Quality of products as shown by exhibits.

This basis of award can be modified slightly in the various other club projects such as poultry, good roads, etc.

The following rules should govern the club work:

1. Attend meetings called by county superintendent, teacher or other designated club leaders.

2. Keep records and make crop report at the end of the

season and transmit the same to the county superintendent, club leader or State agent in charge of club work.

3. To make an exhibit of club products at the local club festival, county or State Fair, as denominated by the State or county leader of the club.

4. Club members should endeavor to project the interest of the club activities into the regular work of the school. This can be done first by writing a story, "How I Raised My Crop," and submitting it to the teacher in connection with the language work or regular requirements in English.

IMPORTANCE OF FOLLOW-UP WORK.

Boys' and girls' club work and the special contests which precipitates all of its activities and is confined to a large enrollment and the promises given by the leader in his newspaper publicity work, with no tangible results to report at the close of a cropping season, is of mighty little value to agriculture and of much less value to the individual club members.

When follow-up work has been neglected the club work can be very easily classified and recognized as a failure. Follow-up work contemplates carefully prepared, printed instructions, special meetings for instruction purposes at schools, social centers, county seats and other available centers, personal visits to club plats by regular State, district or county leaders or their delegated substitutes.

A word of encouragement and a few suggestions at the psychological moment will not only mean results on the club plat, but even greater results in the life and character of the club member.

Field meetings and demonstrations are of vast importance as a means of follow-up work in connection with the boys' and girls' club project. It is a rare thing to find a club member who does not keenly enjoy the opportunity to study the great book of nature out in the interesting school of a cornfield, potato patch, home garden or canning camp.

THE TESTS OF LEADERSHIP.

The fullest evidence of a person's weakness in conducting boys' and girls' club work is in his desire to scatter effort or to use the "spread-eagle" method of meeting every conceivable demand and call upon his time and thus make it impossible to concentrate and "deliver the goods" in a few, well-chosen projects. "Spread-eagle methods" are usually accompanied by arguments and excuses along the following lines:

"We have so many thousand boys and girls enrolled."

"We have sent out so many thousand circulars of instruction."

"We have organized so many club activities in the State."

"The main object of club work is to help the boys and girls."

"After all, what we are after is not earning power, more money, but better character and culture for our boys and girls."

"I am trying to conserve the boys and girls rather than to teach them better agriculture and home economics."

We believe that ten club members in one single county who will enter, study and demonstrate that farming is interesting, practicable and profitable are worth more than 500 club members who have enrolled and done but little in the work. The slogan of every club leader, then, should be "Results" at the end of the cropping season.

CLUB WORK AS RELATED TO MARKETS AND CONSUMERS.

Boys' and girls' club work means more than the mere management and growing of a crop. It should furnish instruction to the member in the proper methods of preparing, grading and crating of products for the market, and how to secure and maintain a profitable market. The local club organization should be organized so as to teach the lessons of co-operative buying and selling and in this way develop for the future generation a type of people who will not only appreciate and understand co-operation, but profit by real co-operative methods. Such club members should be taught the relation of the producers to consumers, the best means of transportation, the value of the honest pack as related to both consumer and producer, and finally, how to effectively eliminate the waste products by the skillful use of the little and inexpensive home canner.

ALL-STAR CLUB WORK.

It is exceedingly important that a disposition be made of the boys and girls who have from time to time won the high honors and who have become the champions of their respective states, district and communities by offering to them a plan of constructive agriculture and domestic science work which will keep them in the work and bridge the gap between the club age and the period when they will have to undertake definitely a piece of the world's work.

It is also important that when club members reach college special efforts should be made to keep them interested in the subjects of agriculture and home economics, and they should be given some particular duties during their college years as organizers and leaders of local clubs during the vacation periods.

CONCLUSION.

During the past year over 200,000 boys and girls have been enrolled in thirty different states in this kind of work, and have been learning the lessons of life and doing in a manly and womanly way their part of the world's work. In so doing they are building the "four-square" citizenship of the tomorrows, equally trained in head, heart, hand and health.

SIXTY-FIVE DOLLARS' WORTH OF BLUE GRASS SEED ON WAY FROM FIELD TO DRYING YARD. THE SAVING OF BLUE GRASS SEED IS A VALUABLE SIDE LINE ON MANY MISSOURI FARMS.

Missouri Duroc-Jersey Breeders' Association.

OFFICERS.

President—Green McFarland, Sedalia.
Vice-President—Chas. L. Taylor, Olean.
Secretary—R. L. Hill, Columbia.
Treasurer—Geo. E. Thomson, Columbia.
Directors—C. G. Starr, Centralia; Edward Sheley, New Bloomfield; A. J. White, Jr., Palmyra.

REPORT OF SECRETARY.

(R. L. Hill, Adenhill farm, Columbia.)

Each Farmers' Week sees one or more new associations added to the list of those participating. This year brings in the Missouri Duroc-Jersey Breeders' Association. The meeting was an interesting one and should be productive of much good to the breeders. The program included an address of welcome by Dean F. B. Mumford of the College of Agriculture; the president's address, by Green McFarland of Pettis county; an address by W. S. Corsa of Whitehall, Ill., on "Important Factors in the Production of Pure-Bred Swine." Other papers and addresses were those included in this report. We very much regret that it was impossible to secure copies of all of them for publication.

The association elected the following officers: President, Green McFarland, Sedalia; vice-president, Chas. L. Taylor, Olean; treasurer, Geo. E. Thomson, Columbia; secretary, R. L. Hill, Columbia. Directors: C. G. Starr, Centralia; Edward Sheley, New Bloomfield, and A. J. White, Jr., Palmyra.

The rapid growth of the pure-bred swine industry of Missouri calls for concerted action on the part of the breeders of all breeds to keep this growth on a firm foundation and to push the business from every practical standpoint.

The purpose of this organization covers a wide field, for the swine breeders have much to confront them and will have for some time to come. First of all, an annual meeting is to be held at Columbia during Farmers' Week, at which time an attractive program will be arranged covering scientific and practical subjects of interest to every swine feeder or breeder. By holding the meeting at this time the breeder is enabled to hear the programs of the various other associations and take part in every department of Farmers' Week.

Every few weeks during the year a circular letter will be sent the members of the association dealing with some practical subject to be of service at that particular season.

A constant effort will be made to control and eradicate hog cholera by insisting on more extensive appropriations from Federal and State government—and by sending to the members from time to time information pertaining to the disease.

The matter of selecting judges and getting premiums for exhibits at the various fairs in Missouri is an item of vast importance and is to be taken up by the association.

The object of the association is not simply to benefit the old established breeders of Duroc-Jerseys, but it is the intention of the organization to help and assist in every possible way every man who is at all interested in the breed, the man who is just starting in the business or wants to start, to increase the number of breeders and the number of Duroc-Jerseys produced. If there is any information wanted by a prospective breeder or one already in the business, the secretary of the association will be only too glad to send a prompt, explicit reply.

It is the hope of the Missouri Duroc-Jersey Swine Breeders' Association that the other breeders of other breeds of swine in Missouri will organize associations and then work in co-operation with us, for in that way much more can be accomplished which is of mutual benefit to all. The other states which lead Missouri in the swine industry are thus organized, and it behooves Missouri swine breeders to keep abreast with the times.

Every Duroc-Jersey swine breeder or any person who is interested in Durocs is urged to join the association. The association needs your help and in turn will help you.

THE SOUTH AS AN OUTLOOK FOR THE HOG INDUSTRY.

(James A. McKee, Versailles, Ky.)

James A. McKee.

To the members of the Duroc-Jersey Swine Breeders' Association I wish to express my appreciation for the compliment you have paid me in selecting me to represent the south before this association. I trust that I may be able to say something of interest to you men of the north.

Bringing together men from different parts of the country to discuss the question of live stock is of the greatest value to the live stock organizations. It develops new ideas, creates enthusiasm and gives to each the opportunity to benefit by the experience of all others engaged in the business. Such a gathering must be for the betterment of all the breeds, and it seems to me that your committee in charge must have felt that there was some outlook in the south for the pure-bred business or they would not have asked a man from that section to address you.

I believe before I tell you of the present conditions of hog raising in the south that it will be necessary for me to review the economic conditions existing there. Perhaps I shall have to go a little farther and give you some idea of the state of things in the south before the war.

The south was divided into large landed estates which were managed by overseers employed by the owners of the plantations for that purpose. The men who owned these estates were not personally engaged in the work; therefore they were not familiar with its details, and the close of the Civil war found the landowner not only deprived of his labor, but the experience of his overseer also. In this impoverished and ignorant condition it was hard for him to become a successful agriculturalist or stock raiser. The raising of cotton was by far the most profitable crop, and little time or attention had been given to other things. This made the situation still more difficult for the planter as he was afraid to venture upon industries about which he knew so little.

What the south needed most at this time was the means and knowledge necessary to produce supplies for the maintenance of its people. The greatest assistance along this line was given by Mr. Seaman A. Knapp of the United States Bureau of Plant Industry when he conceived the idea of the boys' corn clubs. He realized that education was a duty the United States Government owed to its people, and especially to the growing generation. To accomplish this he deemed it necessary to give demonstrations from a practical, scientific standpoint.

The government sent demonstration agents south to teach the people practical methods; and there is now a demonstration agent in almost every county of each state. In the State of Arkansas Mr. Watson is at the head of that department, and there are ninety-three experts throughout the state. What does this mean? It means that the demonstrators went into the south and established stations and taught the boys and the old men how to raise corn; and you know you who have followed the records—that out of the corn clubs of the United States the largest yields of corn have been produced in the south by the boys.

The possibilities of the south are so great that they cannot be estimated. Mind you, there are over 300,000 boys enrolled in these corn clubs; and the story of the increased yields they have made read like The Arabian Nights. The magic of science in the hands of these boys, together with the wonderful fertility of the soil, would startle you people of Missouri. These corn agents are educating the boys. They have also formed them into "pig clubs," so that the boys of the south are not only being taught how to produce corn, but they have been taught the value of the pure-bred pig also.

Gentlemen, I must say all improvement comes from education. The blighting hand of ignorance is just like a western wind that comes sweeping over the prairies of Kansas and dries up the corn crop.

The demonstration agents have brought into the lives of the southern people intelligent and practical knowledge. They knew how to read Milton and Shakespeare and Dryden, and all the beautiful things of romance, but now they have learned to do with their hands and to think with their minds. President Wilson has said, "Education is the proper value of things," and I believe this is the best definition I have ever heard.

All this is teaching the southern boy the dignity of labor and the value of production—teaching him to produce pigs and corn, and peas and crimson clover and vetches and all kinds of forage. It will show him also that if he will put good seed into the ground properly they will grow; and when you have taught him these things you have done him the greatest good.

I tell you there is going to be great material progress in the south in the near future, for the people are alive to the importance of a change in their agricultural systems.

You may have seen an account of a boy in Shreveport, La., who last year displayed the value of this education. He showed a pig that he had raised, against one that had been raised by an old farmer under his methods, and the boy proved the superiority of his knowledge.

Last year the superintendent wrote and asked me to make a donation to the corn clubs; so I said to my brother Frank, "Why not give them a pig." He only replied, "Oh, pshaw," but I sent the pig and received thanks for it; but the superintendent added, "I don't believe we want any more pigs. A pig breaks up the corn show. This one created so much interest they didn't want to pay any more attention to corn."

We have received letters asking what we would sell a female pig for, and later what we would sell a male pig for. This does not mean very much to a farmer, but I feel that when we do little things like these we are putting something into the lives of these boys that can't be measured by dollars and cents. Taking money for the highest standard in life makes us rusty old farmers; but when we do something to help young people along it creates good feeling right inside of us, whatever the motive may be that prompts it. If it is a good motive it gives an entire satisfaction and pleasure that we wouldn't feel otherwise and that is an incentive to other good deeds.

Returning to the question of the previous condition of the south, let me say that now these landed estates are going to be divided into small farms which will be much more profitable as well as economical. The negroes will be taught the dignity of labor and will go to work willingly. The south is going to measure up to the standard of agricultural excellence. When the southern people are properly taught they are going to be successful agriculturalists, and they are going to raise hogs and other things. They will be raising hogs when you people can't raise them here. Why? I will explain by an incident: Mr. Clark took me out around your town and I didn't see any sign of vegetation whatever. Now in the south, at this season, you would see pigs out grazing. To be successful you must be economical, and the most economical raising of live stock is to feed them as much as possible off what they can find in the fields and pastures. After you have found this out you have solved the problem of feeding stock economically. In the south hogs can graze all the year round. The conditions are such that cowpeas, soy beans, peanuts, and all those things that you have to buy in the north, can be raised there with very little trouble. They have Johnson and Bermuda grass, and in some parts of the south they have these planted all the year round, and can raise hogs in great quantities more economically than elsewhere. Some of you should go south and raise hogs and cultivate that wondrously fertile land that can grow everything you can produce here, and more too. The pigs can be let out nearly every day in the year instead of being housed in barns.

There is another condition to be considered. In the south you do not have to have expensive buildings. In many places you can just throw a few rails against a tree and you will have all the protection your hogs need. There is also another circumstance which perhaps you have not thought of. Have you ever realized what the Panama canal will mean to the south? I believe there is going to appear upon the Gulf of Mexico a city that will rival New York or San Francisco. Just where it will be located we cannot tell, but it will be the logical depot for the passage of all the material we are raising to South American countries. I don't know anything more roseate than the probabilities for the future of the south. The possibilities there seem to me to be so great because they are based on bed rock of intelligent and practical education, and where you have the proper environments and educational facilities you will be obliged to have success. The south is going to come to her own and the wonderful things that she can accomplish will be realized when the Panama canal is an accomplished fact.

The southern man, possibly, is a little different in some respects from a great many with whom you are accustomed to do business. He is more inclined to believe what you tell him than are many others. He thinks if you are a live stock man you must be a pretty decent sort of fellow, and he is willing to accept you as such. He is not willing to pay you as much today as the northern breeder because he hasn't been educated to the value of good live stock, and he don't know that good live stock brings high prices; but he will pay you a moderate price, and if you are willing to do business with him and give him good stuff he will be a good customer. But if you sting him once, it is "Good-bye Katy." He is done with you. He will trust you more to start with than anybody else. He will give you more right to be treated as a man of honor and integrity; and he has great reason to expect he will get value for value. If you take advantage of this opportunity you will pay the penalty. Today the man who wants to do business with the south must sell good stuff.

The south had quite a number of prize cattle at the International Live Stock Show, and when it became known a great many people thought it remarkable that the south could produce such fine cattle. The southern people have also been active along other lines, and when they get it into their heads that they are going to produce bulls, hogs, or anything else, they are going to do it.

Years ago Kentucky produced the standard trotting horse. She has also brought to a high state of efficiency the running horse, and has developed and trained the saddle horse. She has made the Hereford and Shorthorn and other breeds of live stock known throughout this country and the world.

I believe the exhibition of hogs is going to give great impetus to the improvement of the different breeds. From showing hogs in the south in the last two years we can see almost from one fair to another how much more attention is being given to the hog business. The interest people are taking is marvelous; during our shows they visit the pens and make many inquiries about hog raising. When we began showing many did not know there were any other hogs in the world to compare to the Berkshire and Poland China. The southerner seemed to think the white hog wouldn't do in the south. They wanted dark, red and black hogs. Now they are coming to think differently.

You would be surprised at the number of boys who are purchasing pigs. Most of our trade in the south has been with men who wanted to buy pigs for "Johnny" or "Jim." They bring the boys around and let them do the buying. I will just give you an illustration: Some one in one of the counties wrote us to send him a couple of hogs, which we did. Later we went to one of the southern fairs and we met the gentleman who had bought the hogs for his little boy. He said, "John is down here today; he has some pigs, but he never joined the Boys' Corn Club. I want you to tell him how he can make his pigs grow. I would like to have him go round with you to the different fairs." We took him along, and do you know that little fellow was the most enthusiastic boy you ever saw. He said after he had been to a couple of shows, "I see how they do it." That boy is just a sample of thousands of boys in the south. They are getting wise. These shows are educating the people to the possibilities of live stock raising; and it is the best class that are being educated for—it is the younger generation.

I forgot when speaking of the boys' corn clubs to mention that these southern agents have established for the girls what is known as "Tomato clubs." They are trying to get all young girls in these sections to see how many tomatoes they can produce on one-tenth of an acre; and it has had this economic effect, that in the production of tomatoes the United States Government is today giving these girls under these farm agencies a certain value in the commercial world, and now all the tomatoes grown by girls of the southern tomato clubs have been engaged. There is a fixed purpose in women of the cities to get into communication with the girls who raise tomatoes and other vegetables so they can go direct to the consumers, thereby benefiting both parties. This shows that not only are the boys learning to raise hogs and corn, but the girls are learning to raise vegetables as well.

I don't know what is the cause of the many inquiries we have had of late concerning live stock. There must be some reason for this great interest. For the last week we have answered between twenty and twenty-five letters each day about pedigreed hogs. I am of the opinion that exhibiting hogs in the south is the cause of this great activity.

SWINE ORGANIZATIONS—THEIR VALUE AND THE WORK THEY SHOULD DO.

(E. Z. Russell, Benson, Neb.)

We would make two classes of swine organizations, state and breed. State organizations should include the breeders of all breeds of swine. We believe that each breed organization in the state should be auxiliary to the state organization.

The value of either state or breed organization will be just what the members of such organizations make it. There are many things that a state organization can do to further interests in general. In this organization we would reach as far as possible in the membership, and by no means limit your membership to breeders of pure-bred swine, but get every farmer possible interested in your organization.

As regards meetings, we believe one good general meeting better than more, for the reason that farmers and breeders are busy men and it is hard to get an attendance that will justify too many meetings. When we have one meeting a strong pull can be made and a good meeting assured. To have a good meeting we must have numbers. Very seldom do we get the necessary amount of good from a small attendance.

This annual meeting can be held in connection with other agricultural meetings, as I understand you now have in this State. When you can show to the farmer or breeder that with the same expense he can attend several meetings you will be more liable to get him to attend your meeting than if he can only attend the one. When you can once get him started and he becomes interested you can get him to come again.

I am firmly of the belief that no farm enterprise will make better returns for the time and money expended than will the raising of swine, and the better the swine the greater will be the returns. Breeders of pure-bred swine are, of course, anxious to extend their sales, and to do this we must interest the fellow who is not now raising pure-breds, as well as to keep interested the fellow who is now raising them. If we can get these men to our meetings, have men there who know the business, read papers, etc., show the many advantages of raising better hogs, we will soon have these men wanting to better their condition by having some of these better hogs.

In the meetings of the state organizations breed characteristics should not be discussed. The object of this organization should be to show up the advantages of the breeding and raising of better swine. All breeds will be in turn benefited.

Friendly relations should be sustained with the different fairs and stock shows. State swine organizations can materially assist the different fairs and shows in the making of the premium lists, selection of judges, sanitary conditions, including regulations for shipping, etc. Now that so much is being said and done in relation to the vaccination of swine as a preventive for hog cholera, state organizations can be of much benefit to the proper officers who have charge of this matter. One thing in this connection which should receive the consideration of the officials is the sanitary conditions on the individual farms. State swine organizations can do much towards keeping down swine diseases by their members pledging themselves to not only keep their own premises in the right condition, but toward assisting state officials in having others keep their farms in good sanitary condition. I don't mean by this to be squealing on your neighbor—far from it—but you can assist by keeping the proper officials informed as to conditions in your neighborhood.

Conditions now facing the swine grower are certainly bright, and indications are that the man who will keep thoroughly at it is going to be well repaid for efforts expended in the raising of good hogs. Swine organizations can do much towards helping their members by spreading the gospel of good hogs. By doing so you not only help yourself, but you help the man who is induced to raise more and better hogs.

Petty jealousy should never come into any organization of this kind. We have often seen men who are raising a certain breed of animal say to a prospective buyer that under no circumstances should he buy anything but the particular breed he is keeping. This is all a mistake. To make a success of stock raising one must like the kind of stock he is raising. If a man who is raising scrubs gets it into his mind that he wants to raise better hogs and a breeder of any one of our breeds gets to talking to him and induces him to get some of that particular breed, when this man thinks he would prefer some of the other breeds, it is a ten to one chance that he will not succeed. Let him get the breed that he likes best, and rest assured that if you have the best breed it will be discovered and you will in the end be the gainer.

BREED ORGANIZATIONS.

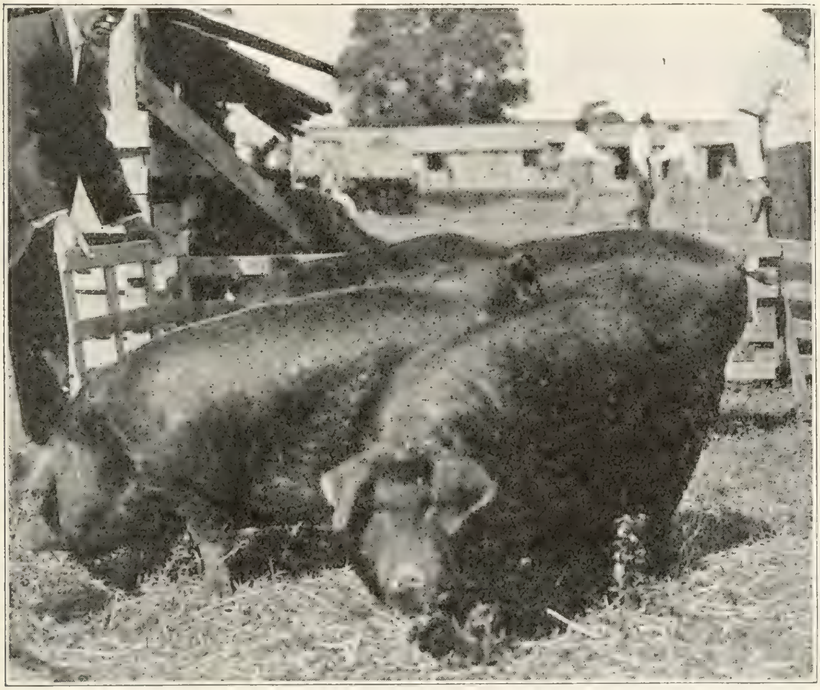
Under breed organizations we would place two distinct organizations, National and State. The national organization would be the record association where our hogs are recorded. The value of the record association is priceless. The value of a pedigree is only what it is made by the party who signs it; at the same time the officers of the record association can and should prescribe rules and regulations for the recording of the animals that should be very helpful to the honest breeder in making his pedigrees as correctly as possible and as hard as possible for the rascal to make a dishonest pedigree.

Officers of a record association should be men of known integrity, well versed in the breed, fearless in the discharge of their duty, and men who will place the value of the record above all else. Many vexing questions come up for decision by the officers of the association. They must be men who can decide against a personal friend if it is necessary to do so.

Generally speaking, the meetings of the record association are purely business meetings. We believe that this should be changed in a manner and the annual meeting should be a business meeting and, in addition, a meeting of the members of the association to "talk shop." Papers should be prepared on different subjects vital to the members, discussions entered into, and the meeting made the most profitable in this way. Efforts should be made by the officers to get as large an attendance of the members as possible to these annual meetings, and the members should in turn make an especial effort to attend. Members of the board of directors of the association are often confronted with questions about which they are in doubt. If we could have in these meetings a free expression from the members regarding matters that they may know will come before the directors much assistance will be given the board in making their decisions.

A hearty co-operation should be made by the members with the officers of our record associations in making the record all it should be. This can be done by the members lending every effort to the officers, especially in complying with the rules regarding the recording of the animals. You are vitally interested in the value of your record. It is within your power to make the record more valuable and more nearly correct by cheerfully complying with the rules of recording as made by the association in which you are recording.

State breed organizations can be made valuable to the breeders of any particular breed by the members getting together and working harmoniously for the upbuilding of the business. They must be progressive and on the alert for new business; if you are not, then the other fellow will get the new man who is figuring on taking up the business of breeding pure-bred swine. In a state breed organization as in all associations much will depend upon the officers. Too often do the members expect the officers to do all the work and in this way get into the rut of letting them do it all, and sooner or later your organization will go down and out. Then again, some officers of associations assume all the duties and let the members think that they have nothing to do. Nothing will keep up the interest of the member of an association as much as to give him something to do. In his locality give him to understand that you are expecting him to see to it that at the county fair or stock show your breed is creditably represented by good specimens. State breed organizations can be of lasting benefit to their particular breed in urging their members to show their animals at the state fair



"See to it that at the county fair or stock show your breed is creditably represented."

and stock shows. We believe that there is no place where advertising can be so cheaply and thoroughly done. Make it a point to get into your organization all the breeders of your breed you possibly can, especially the breeders of the best animals. When you get them interested in your association, if they are not men who are in the habit of showing at the fairs and stock shows, make it your business to get them interested in showing. You can't have too many good specimens of the breed at these fairs and stock shows. The thing we want to get out of our heads (if we have it there) is that it hurts our business if some other fellow can show a better animal than we can and get a better place in the awards. Nothing will do a man so much good in his breeding operations as it will to go to the fair and get "skinned." When this happens he goes home with the determination to come back next year and get the other fellow's scalp. In this way the quality of the individual animals of the breed is made better and in consequence is the standard of that particular breed made higher, inducing new breeders to take hold of that breed, and in turn is a benefit to all.

One of the vital questions regarding a fair and stock show is who will act as judge. We believe that state breed organizations can do much along this line by the members getting together and talking over the matter, considering different men for this position, and then agreeing on the man or men whom they think best to do the work for them at the show. They have not the appointing power, but we believe that if state breed organizations will get together as we have suggested and make recommendations to the proper officials of the show they will probably get the man they want if it is possible for him to be gotten. State fair officials are as anxious as the exhibitor to get the right man to do the judging in all departments. Nothing will lower the standard of the show or lessen the number of exhibitors as to have it known that the judges in any class or classes are selected by the influence or pull of an exhibitor of that class. Not only that, but the exhibitor who has this pull and uses his influence to get some one appointed as judge with whom he has personal influence, thinking he will get special favors, is only "cutting off his nose to spite his own face," for sooner or later he creates an enmity with the other exhibitors and the influence against him is sure to be felt. Only shortsighted men with narrow minds will do these things, and, thanks to the integrity of the countless thousands of breeders, we have but few who qualify in this class.

The question of type is a serious one in some of our breeds of swine, particularly in some states. In selecting a judge to judge our hogs we must give this matter some consideration. We are in the west, and we believe that the prevailing demand is for a hog with the most size possible and at the same time carrying the necessary quality. If this is the case it would be folly to select a judge who would select a small-type hog. You will be surprised (if you have not given the matter some attention) how many men, the beginners especially, want to get something closely related to the champion boar, or sow, at their state fair. If this champion is an animal not of the type generally sought for in that particular locality or state, the man who gets started in this line is almost sure to not meet with the success he expects and you will find him out of business or perhaps taking up the breeding of some other breed of hogs. Give this matter some attention when considering the selection of a judge.

A state breed association should have a regular set of bylaws and a constitution, simple, yet setting forth just what the members want. If possible, have these printed in pamphlet form for distribution among members and prospective members. A neat certificate of membership is always appreciated by the man who joins your association; it shows him that there is something more to the association than simply paying his fees and dues. One of the essentials is to have at all times some funds for necessary expenses. This does not need to be much, but you should not be asking your secretary or treasurer to do something and then let him dig down into his own pocket and pay for it, trusting to the members to make up the deficiency at the next meeting. Careful attention to this will be a big factor in making your association grow and prosper.

In some states state breed organizations can do much good for their breed in the way of introducing it into localities by the holding of public sales. The state breed organization can take the matter up and get different members of the state organization to consign to the sale one or more animals. Send them into a locality well adapted to the raising of good hogs, where few of your breed now are, and hold a public sale. Generally speaking, a sale of this kind will not be a financial success, but you will not be holding it with that purpose in view. If you succeed in placing in that locality some forty or more fair specimens of your breed results will follow that will in the end make your venture profitable to not only yourself, but all the breeders of your particular breed. Don't make the object of this sale a failure by going to the sale and buying the animals consigned in order to make a good average. Go with the idea that you are going to get them into new hands, and see to it that you do.

If I may digress from the strict letter of my topic I want to say a few words to the Duroc breeders in particular. You men living in Missouri breeding Duroc-Jerseys are certainly to be congratulated for the many natural advantages you have in the raising of your chosen breed. Your breed should far and above outnumber all other breeds in your splendid State.

The farmers the world over have become more progressive. If they succeed in a business way they must be progressive. We are living on high-priced land, which is getting higher all the time. We are feeding high-priced feeds, drive high-priced horses and use high-priced help. To meet these conditions and make a success of our business we must necessarily make the most of our resources.

Farmers and hog breeders are fast finding that grass is a natural factor in the producing of pork; they are finding that they must use grass as much as possible in the production of pork if they expect to succeed. What is to be the result? Will it not be a demand for the hog that will produce the most pounds of pork from grass? I am firmly of the belief that in the Duroc you have that hog. No hog will go on the pasture and produce the pork that will the Duroc. If this is a fact you men in Missouri, which nature endows with such a long pasture season, certainly have a golden opportunity to push your favorite breed.

Well do I remember in my own State of Nebraska, which is many miles north of you and where our pasture season is much shorter than yours, some twenty years ago the Duroc hog was almost a laughing stock. Fortunate for this splendid breed of hogs, men were at the helm as breeders who kept tenaciously at it. A good state breed organization was formed, harmony was always the watchword, the breed was pushed to the extent that today it far and away outnumbers any other breed, and many times at the Nebraska State Fair the Durocs outnumber all other breeds.

I urge upon the breeder of Durocs in Missouri to each put his shoulder to the wheel and hustle for new members of your association. If you have not already done so, adopt a constitution and by-laws. Don't stop until you have every good breeder of the breed in your State a member of your association. Always be on hand at the meeting or meetings. Let every man take a part in all the proceedings and get for your officers men who will push all the time, men big enough and broad enough to see the greatest object in view—the betterment of the breed in general. We believe in a rotation of the officials; don't make it incumbent on one set of men to do this work for you all the time; at different times get new men to take hold of the business, and they will see the need of some one else working besides the men elected to office if the best results be accomplished.

HOG CHOLERA.

(J. B. Gingery, D. V. M., assistant professor veterinary science, University of Missouri.)

Hog cholera is perhaps one of the most common diseases of swine and one that causes more loss to the farmer and stock raiser than all other diseases of swine combined. It is a specific infectious and contagious disease, the blood being the tissue mostly affected. It might be classed as a septicaemia, due to an ultramicroscopic organism. That is an organism that is so small, or else, owing to some peculiar characteristic of the organism, that it cannot be seen under the microscope even by the aid of the highest magnifying lens we have today.

All attempts to grow this organism in the laboratory on artificial media have been in vain as no results have yet been attained, and we are still as much in the dark in regard to the characteristics of the organism as ever. These two conditions alone make this organism a very difficult one with which to work or experiment.

We find cholera in two forms, acute and chronic. The acute being the most common and most fatal usually kills the animal quickly, at least within a few days.

The chronic form is a much more lingering form. The animals live for from a few weeks to several months, then many either recover or die. They usually die in an emaciated condition. If the animal lives it usually requires considerable time to fully recuperate from the effects of the disease, but once over it this animal is then immune to cholera. We also quite frequently find serious complications such as "pneumonia," which seems to be a secondary disease accompanying cholera, and in fact is so common that one may easily be mistaken in his diagnosis, especially if only one animal is examined and this animal be one that shows the severe pneumonia type of cholera. It is always best to examine a number of animals if in doubt, as a correct diagnosis is essential in any of these cases.

Investigators connected with the United States Bureau of Animal Industry, namely, Drs. Dorsett, McBride and Niles, discovered some ten years or more ago that the blood serum of swine that had been made hyperimmune to hog cholera possessed immunizing properties when injected into susceptible hogs. This important discovery has been put into large practical use in many states and has been the means of saving many thousands of hogs from cholera. Notwithstanding the great good that has been done in the past, I believe the coming years will see far better results through the more intelligent use of serum along with proper sanitary measures.

It is impossible to control a disease of this kind which is spread in so many different ways by simply one or two in a neighborhood vaccinating and doing their best to get rid of the infection and the rest of their neighbors allowing their hogs to die of cholera and not using any precautions to get rid of the disease; it requires a combined effort. If we can get the hog raisers to feel that it is their duty and their gain to get rid of the disease and maintain healthy herds, then we can begin to see results. It is more necessary for organization and co-operation to successfully combat this disease than it is to have hog cholera serum for controlling it.

You may now ask, how are we to do it? First, organize your neighborhood into an "anti-hog-cholera club;" then as soon as there is an outbreak of cholera get busy; do not be ashamed to let your neighbors know about it if you have the disease on your own farm; warn them to guard against it, and they will not go near your pens to carry it home to their own hogs. Then get the serum and vaccinate all your well hogs, clean up, burn all dead animals, also the infected litter and trash in your pens, and disinfect all yards and sheds. This can be done quite easily by sprinkling fresh air-slacked lime freely about the yard, and the use of some good coal tar disinfectant, whitewash your sheds, applying the whitewash with either a brush or force pump. Dip your hogs occasionally to keep them free from lice, or better put them in a close pen and sprinkle or spray them with crude oil. Give some good conditioner which would aid the animals in getting rid of the disease. It would be well, if possible, to change your yards occasionally and not keep the hogs on one yard too long. Plow the yard and put to some good forage crop in the proper season, as this is an excellent feed for hogs, and you no doubt have heard said: "Pastureless pigs are neither the most profitable nor the most resistant to prevalent diseases." Give good, wholesome food yet not too much.

A few "don'ts" to be observed in combating hog cholera:

Don't allow your hogs to run at large and carry infection from the infected farm to those that are free from disease.

Don't leave the dead carcasses exposed for the crows and buzzards to feed upon and then carry the infection to your neighbor.

Don't throw the dead animals into a near-by stream because it is handy. This will only carry the infection to your neighbors below you.

Don't allow your diseased animals to run all over your farm and keep the entire place infected; shut them up and keep the infection localized in one place on your farm if you are so unfortunate as to get it.

Don't allow your hogs to run to the creek during a cholera outbreak; there is danger of getting infection in this way.

Don't bury an animal that has died of cholera, as this only harbors the infection and may cause you and your neighbors trouble next year.

Don't ask your neighbor to help you haul your diseased hogs to market; this scatters infection.

In controlling hog cholera we must remember there is no effective cure for the disease after it is once developed. We can prevent or check an outbreak with good serum properly administered.

There are two methods in practical use today for administering the serum: First, the "simple serum" treatment. This consists of giving only the anti-hog-cholera serum, and there is no possible way of scattering the disease in using it. This can be used on practically any age animal, giving better results, however, on the older animals. It produces a passive immunity which lasts from 60 to 90 days. This is a very good treatment to use if one follows it up by cleaning up his yards, but unless he does he had better repeat the treatment in about 60 days or there is danger of a new outbreak. If you expect to get rid of the disease, which should be every one's aim, this is the ideal treatment, and every one should use it when in danger of infection.

The simultaneous treatment is simply the administering of a few drops, or up to two cubic centimeters, of cholera blood at the time of giving the serum, which produces a varying attack of cholera. In this way there is produced an active or, more or less, lasting immunity, the length of time depending a great deal on the age of the pig when treated and how severe an attack of cholera he develops from the treatment. Great care must be taken in this treatment to make sure that a sufficiently virulent virus is used to produce a severe enough attack to produce the immunity desired or you may have the same effect as though you had only given the single treatment, and yet thinking you have the double treatment cause you a great deal of loss in case the hogs become exposed four or five months later. Again, you must have serum potent enough to protect the hog against cholera to such an extent that the animal has the disease in such a mild form that it will still recover. In this treatment, especially, does dieting play a great part. One should put the animals on short rations for a day or two before treating and then continue to feed lightly for a week or so; do not feed heavy feed such as corn, but give mostly slop. These animals should be kept in strict quarantine for at least twenty-one days, and the lot in which they are held should be kept thoroughly disinfected with fresh lime.

We find that either of these treatments give very good results when properly handled, but with either of them very little can be accomplished where one man vaccinates and does his best to get rid of the cholera and his neighbors harbor the infection. But if the whole neighborhood or township combine to form "anti-hog-cholera clubs" and then every one does his part, great advancement can be made in eradicating cholera.

But before we can expect this it is necessary for you, Mr. Farmer or Mr. Stock Raiser, to learn that this is your problem and not ours. We can help you and work out plans along which to work, but alone we can do practically nothing toward getting rid of this much-dreaded disease. With your hearty co-operation and help we can get results that will soon make a great showing in the shortening of the now long list of deaths due to hog cholera, and in this way soon put the hog industry on the high plane where it belongs. So to sum up the essentials in controlling hog cholera we may list them as follows:

1. Organization and co-operation.
2. Sanitation and quarantine.
3. Proper vaccinating with good serum.
4. Proper feed and proper dieting.

With these few essentials properly carried out in each township in the State the hog cholera problem, I think, would soon be solved.

HOG CHOLERA DISCUSSION.

(Dr. J. W. Connaway, professor of comparative medicine and veterinarian to the Experiment Station, College of Agriculture, University of Missouri.)

Dr. Connaway.

Mr. Chairman and Members of the Duroc Swine Breeders' Association: In discussing the excellent paper presented by Dr. Gingery I can add but little except to emphasize the importance of better co-operation among the farmers in carrying out simple rational measures of prevention.

There is one point, however, that has not been touched upon which is a matter of special importance to the swine breeders, and that is the effects of cholera on the reproductive functions of brood sows. A conversation I have had with Mr. McKee, our guest from Kentucky, has induced me to say a few words on this matter. Mr. McKee, as you all know, thinks that in the hog line there is nothing better than a Duroc—except "more Durocs." Hog cholera, he tells me, has prevented him from having more of them—not only from the death losses due to the disease, but also the losses that result from abortions and conditions that prevent conception or lessen the fertility of some of his good brood sows. The experience of our Kentucky friend is not unique, for the same thing happens in Missouri. Mr. McKee has been a warm supporter of scientific investigations and teachings, and has tried to avail himself of the benefits that come from such work. His experience, however, in trying to secure a "life immunity" in his breeding herd and to supply his customers with "permanently immune" breeding animals, by means of the simultaneous method of immunization, has been so expensive and so unsatisfactory that his faith has been somewhat shaken in the work and teachings of the veterinary scientists.

Taking the country over, we have no accurate data as to the percentage of sows whose fertility is seriously affected by cholera contracted from natural exposure, nor the percentage that become sterile, or have their fertility affected from the "inoculation disease" caused by the injection of hog cholera blood when the "simultaneous method" is used. But that this is a factor that must be considered by the breeder of valuable pedigreed sows cannot be questioned. Our correspondence with farmers and the reports of the men we have sent out to investigate cholera in various parts of the State show that cholera when contracted from natural exposure, and cholera virus, when injected with a hypodermic syringe, do cause abortion and affect the breeding powers of sows in numbers of cases. It is my opinion that no breeder will find it permanently profitable to "advertise" that he maintains an immune herd by the application of the "simultaneous method" of vaccination. This simply advertises the fact that he maintains a cholera-infected farm which in the end will drive customers away rather than attract them. The disadvantages of attempting to maintain a permanent immunity of a registered breeding herd by means of the "simultaneous" or "cholera blood" method so overbalance the advantages that good breeders who now follow the practice will discontinue it and others who are wise will not adopt it. Simpler and harmless measures, of which I shall speak, will secure better permanent results. The best advertisement that any breeder can have is to show that his hogs that are offered for sale are vigorous, in perfect health and have never had any disease, and have never been injected with virulent hog cholera blood; moreover, that the farm of the breeder is not infected with cholera germs, but is kept in a sanitary condition.

A breeding experiment which we made with a lot of 23 hyperimmune sows that had been used in our serum work may interest you; these were a mixed lot of sows bought from farmers in the neighborhood and represented the average in quality of the unregistered breeding stock of the country. These sows varied in weight from 250 to 400 pounds. They had been injected a number of times with virulent hog cholera blood, in the course of their treatment in preparing them for serum-production, and were therefore thoroughly resistant to hog cholera. Their breeding record, however, was nothing to be proud of.

The total number of pigs farrowed by the 23 sows was 127, or an average of about five and a half pigs to the sow. Six sows or 26 per cent of the lot had no pigs; 1 farrowed 3 pigs; 2 farrowed 5 pigs; 2 farrowed 6 pigs; 5 farrowed 7 pigs; 3 farrowed 8 pigs, and the four remaining sows farrowed 9, 10, 11 and 13 pigs respectively. I asked Mr. Weaver of the animal husbandry department to group the sows into three groups, namely: "Inferior," "good" and "extra," and to try to make his judgment conform to that of the average hog raiser. He placed 16 of the sows in the first group—that is, more than 69 per cent of the sows were put in the "inferior" class; this included the non-breeders. He placed 6 sows, or 26 per cent, in the "good" class, and 1 sow, or less than 5 per cent, in the "extra" class. I think that you Duroc breeders will agree that he was not unfair in the classification, for you are accustomed to better results in your breeding operations. And this lot of sows, in your opinion, should have produced a much larger number of pigs when I tell you that quite a number of them had a good admixture of Duroc blood. And I am confident that the representatives of other breeds who are present will not for a moment admit that the poor showing is in any way due to the admixture of Berkshire, Poland or O. I. C. blood. My own opinion is that "hog cholera virus" has had something to do with it. We are going to breed these sows again, to see whether they will make a better showing with the next litters. We will finally kill the sows that are poor breeders and make a careful examination of the generative organs to see what diseased conditions exist.

I have here a photograph of an organ affected with cholera which illustrates one of the conditions that is sometimes found in the womb of hogs suffering from cholera, and will show how an animal that recovers from an attack may become sterile or have her reproductive powers greatly diminished. This specimen shows numerous small "blood-shot" spots on the outer surface. These blood-shot spots are due to the rupture of numerous small blood vessels in the walls of the organ. These minute ruptures frequently occur on the inside of an organ, and if the disease assumes a chronic form these small ruptures may develop into ulcers; this is often seen in the intestines in chronic cases of cholera. The same thing at times occurs on the inside of the sow's womb, resulting in a chronic catarrhal condition of that organ. At other times the ovaries and fallopian tubes may be involved to an extent that results in sterility. In some cases the catarrhal condition is slight and the generative organs may regain their normal state. In other cases only one horn of the uterus may fully regain its normal condition, with the result that the sow has small litters of pigs. I do not wish to be understood as claiming that hog cholera or the simultaneous method will inevitably produce abortion or lead to sterility, for some sows will withstand the disease and produce large litters of pigs. But a sufficient number are affected to make it a serious matter for the breeders of registered swine. You men are justly proud of the prolificacy of the Duroc breed, and I do not believe you can afford to risk lowering the record by resorting to a questionable method of controlling hog cholera or trying to meet a mistaken trade demand.

In the matter of trade demand, we could learn a good lesson from Canada. Those of you who have shipped hogs to Canada know that one of the requirements is that the animals to be shipped must be healthy and that cholera has not existed on your farm during the preceding six months, and moreover, that there was no cholera-infected farm within a radius of five miles of your farm at the time of the shipment; also, that proper precautions shall be taken in shipment to prevent the animals from becoming infected in transit. Nor do the Canadians want you to send them breeding swine that have been injected with hog cholera virus and serum—in other words, treated by the "simultaneous method." They fear the danger of such animals carrying infection. If the Canadian requirements were in force in Missouri for local and interstate trade in breeding swine, how busy all you breeders would get in the work of eradicating hog cholera from the State. Each of you would become a leader in the organization of a local club that would put into operation, on every farm within five miles of your farm, the measures that we are advocating in our state-wide campaign against hog cholera. This is a campaign that emphasizes the fact that the control and eradication of hog cholera is in the main the farmers' job, and that the means to be employed are for the most part simple and inexpensive, consisting of old, time-tested methods of sanitation which need to be applied, not solely to an individual farm here and there, but to a large number of contiguous farms in a neighborhood. Organization that will bring about intelligent co-operation in "simultaneous stock farm sanitation" is what we need. This is the kind of "simultaneous" treatment that will rid your farms and your county and the State of hog cholera. Your customer twenty miles away and your customer over the State line deserves fully as much consideration as a customer in Canada demands in these matters of the sanitary condition of your farm and neighborhood.

The veterinary and the farm management departments of the University have formulated some of the specific things that are most important for the farmers to put into operation. These plans have been put to a practical test in two counties with such gratifying results, from the point of view of controlling the disease at small cost, that we feel justified in advocating and working for a state-wide application of the plan. The importance of this plan is that the control and eradication of hog cholera is not considered to be a purely nor primarily veterinary problem, but is largely a problem to be solved by improved hog farm management. The principal things that are advocated are things that every farmer should do as a part of a proper system of hog raising, even if he should have no hog cholera to deal with. The control and eradication of hog cholera thus becomes an incident in a system the main purpose of which is to raise more hogs and better hogs on more farms and at less cost. In fact, where this plan is being tried out the number of calls for serum have been greatly diminished. Moreover, the need for official quarantine measures is not so urgent. The anti-hog-cholera sentiment that has been cultivated through this co-operative plan will make enforcement of official quarantine measures easier and more effective than in the past if such measures at any time are necessary. Under this plan the State hog cholera serum laboratory will be amply able to supply all the serum that is needed for every legitimate use in controlling and eradicating hog cholera. And the veterinary police work of the State Board of Agriculture will be greatly simplified so far as hog cholera is concerned.

The members of this association cannot serve themselves, nor the breed of swine in which they are particularly interested, nor the swine industry as a whole, better than to take an active interest in this "anti-hog-cholera" movement as it is planned and is being put into operation. As the details of this plan were discussed quite fully yesterday at the meeting of the Farm Management Association, I will not speak further on the matter at this time. Most of you, I think, are members of that association and will get the published report. Besides, Dr. Gingery in his paper has touched upon some of the essential points included in the plan.

Missouri County and District Fair Association.

OFFICERS.

President—A. R. McComas, Sturgeon.
Vice-President—J. W. McDermott, Kahoka.
Treasurer—B. E. Hatton, Columbia.
Secretary—E. A. Trowbridge, Columbia.

REPORT OF SECRETARY.

(E. A. Trowbridge.)

E. A. Trowbridge.

At the annual meeting of the Missouri Association of County and District Fair Managers, 1913, the matter of legislation was discussed. The legislative committee of the organization was instructed to do all in its power to foster legislation which would aid county fairs in Missouri. There was introduced in the Legislature a bill allowing each county fair 30 per cent of the total amount of premiums paid on live stock and agricultural products up to the amount of $300. The members of this organization, and particularly the legislative committee, were active in promoting this bill, and it passed the Legislature, was signed, and during the past year a large number of county fairs received State aid. Further particulars regarding this matter appears elsewhere in the proceedings of this meeting.

The organization has grown during the past year, the membership has been increased and it now stands ready to be of service in any way possible to the county fairs of the State.

THE COUNTY FAIR AND THE PRESS.

(Rufus Jackson, Mexico, Mo.)

There are a number of enterprising counties that have no county fair yet support several good local papers, but this is not the rule. As a matter of fact, a good fair and a good paper go hand in hand. The greatest good to be derived from this mutual connection comes to the county fair.

I have made observations in connection with the proper advertising of fairs, and I never have yet found a place for a highly expensive calendar or a highly expensive poster, if used to the extreme, that I have known some county fairs to use them. The object is to get the material you have to advertise about your fair before the public in a clean-cut, simple, concise manner, and they will appreciate it more. In this the best results will come through the use of the newspapers in your county, with possibly a few especially good publications at greater distance. Further, I am of the opinion that there is not a newspaper in Missouri that will not gladly co-operate with you in your efforts at advertising your county fair or pushing any good thing for the community. Furthermore, the average paper will give to you more than it receives in return, in so far as actual money compensation is concerned. Let a thorough understanding be had with your newspaper man about your fair workings. I think a fair association properly managed should have an appropriation for advertising just as there is an appropriation for premiums for live stock of all kinds, for your agricultural displays, etc. Take that advertising appropriation to your newspaper man and say to him that there is the amount of money the directors have decided to put into advertising. Ask his co-operation and suggestion as how best to spend this money to get the best possible results for the fair.

If you take this course you will find that the newspaper man will appreciate the position. You have shifted, to some extent at least, the responsibility from your own shoulders to those of your press, and there is no question but that you will receive excellent results. You will always find the newspaper man awake to what is needed in the community. He knows how best to reach the people, and it is to his interest to make the fair go, for it is an institution in the community. It is the public, after all, that is to be considered, and the manner of putting that fair before the public, that it may appeal to them as a form of entertainment educationally, is all important.

I know of a fair held last year, and a very successful fair as the general run of fairs go, where the stockholders went down in their pockets and made up a deficit, and for some reason, hard to understand, the newspaper in the town in which this fair was held absolutely did not do any of the printing for that fair; the newspaper didn't even print the premium list. I know of many newspapers which carry as free reading notices column after column of matter. I doubt the wisdom of such an arrangement where the home paper is given none of the local fair advertising. Why was this catalog printed away from home? It might have been because some foreign plant offered to do the work for a few cents less. Maybe the newspaper had an advertising rate that some of the officers thought a little high, so did not advertise in it. Whatever the trouble, there was a lack of co-operation that went against that fair. As a matter of fact, the newspaper of that community is as important and progressive as is any other single enterprise. The newspaper is entitled to be one of the most important co-operators of the fair. In this connection I would say that a newspaper to be a newspaper is a little bit in advance of the community it represents, and the same is true of a county fair.

I only wish I were able to make plain the fact that there is an absolute necessity for co-operation between the county press and the county fair management. It seems to me that there is a union there that absolutely should be most compact in every way. I firmly believe that in so far as advertising of county fairs is concerned it is best cared for through your county press, and I am quite sure that is best cared for where you have the co-operation that should be and will exist if the county press is taken into the proposition, and I am sure that along these lines there is a great advantage to be gained.

As secretary of the Missouri Saddle Horse Breeders' Association I am greatly interested in the promotion of the Missouri saddle horse, and we have had your co-operation in the past and we respectfully solicit it for the future. We have placed the Missouri saddle horse in a position that is absolutely unexcelled. We are far in the lead of every state in the Union. The eyes of the world now turn to Missouri as the saddle horse State, and a great deal of this has been brought about through the offering at our county fairs of suitable prizes. In the last four years since the organization of our association the prizes offered for saddle horses have been greatly increased, and that results have been obtained, not only from the standpoint of the saddle horse interests, but from the standpoint of the fair management, is beyond question. The saddle horse stakes, including the championship stakes at our county fairs, have been the features of these fairs. The association is deserving of all that can be done for it. We put a measure before the Legislature providing a license fee for all male animals that stand at public service. This fee was to go in a fund to be proportioned out in the counties of the State in proportion to the amount put in, and then in proportion to the fairs held in that county, and to be offered back to the stockmen as prizes in the different classes in which it originated. We didn't get very far with this measure, because several members of the committee on agriculture offered objection on account of the fair south of the river. Nevertheless, a bill was passed which had been introduced by President Wilson of the Senate, providing for an appropriation of some $30,000, and which money has been appropriated to the fairs according to the law.

In this connection, Mr. W. L. Nelson of the Board of Agriculture has worked out a plan that I am very deeply interested in, speaking from my position as secretary of the Saddle Horse Breeders' Association. This plan would include a definite report to be made of each of the fairs, such report to be filed with the Secretary of the Board of Agriculture. The report would embody statistical information that is absolutely necessary in compiling the records of the achievements of our live stock. I sincerely trust that Mr. Nelson will go into detail in that regard. I have cause to know that the compilation of the records of our saddle horses, in so far as accuracy is concerned, is hard to determine. There is no report made now, and if one is made it is almost worthless, for no information worth while is given. The report simply reads, for instance, "Saddle mare, any age, Hook & Woods, first." Nobody can make anything definite out of that kind of a report for compiling records such as we are interested in. I sincerely trust that Mr. Nelson will arrange a record that will be of convenience, not only to the secretaries of the various fair associations of the State, but to the interests that these fairs represent.

A SUCCESSFUL COUNTY FAIR.

(J. D. Johnson, Monticello, Mo.)

We started our fair seven years ago. We are twelve miles from the railroad at one point and seven miles from another. When we said that we were going to have a fair without races most of the people threw up their hands and declared that such a thing was not possible. But with one exception, 1911, when it rained all week, we have come out on the right side of the ledger.

We organized by selling our shares at $25 each, and, with one or two exceptions, none of our shareholders have more than two shares. So you see, our capital being $4,000, we have quite a number of shareholders in our own county and a few in an adjoining county.

Then our next move was to charge every one at the gate, directors, shareholders and the public alike, all except stockmen. And right here I want to emphasize the fact that to have a fair you must have stock, and to get the stock you must have stockmen to take care of and show the stock. You must not get into a controversy with the exhibitors over a small gate fee. If you can't get them any other way, let the father and two or three boys in with a colt; get the farmer and his boys interested.

Another great feature, we think, is that we allow no animal (unless a colt shown with dam or a horse shown double) to win more than two first premiums. By this means you will see that with a $3,500 list, by the time the week is over, most every horse, colt or mule has some kind of a premium. You meet the owners going home from the fair with their stock and ask them what they got; they can and will tell you "first" or "second," as the case may be, and tell you the truth. Of course they do not tell you how many times they had to show.

We show our sweepstake colt rings before the regular rings, then in the shows that are to follow bar the colt winning first. We also aim to use a different judge. By this plan we have every colt on the ground, in the sweepstake ring, which is a $50 premium. To make this plain, I will explain how we arrange it. For the best colt of either sex and other than draft we give a premium. Then we give a premium for the best harness stallion under one year and the same for a harness mare under one year. The same rings are also made for a saddle colt and all-work colt;

so we make six regular rings out of this one sweepstake ring, with the first premium colt in sweepstakes barred. We do the same in the draft and mule colt rings. By this plan we have a very large ring of colts—had twenty-six entries in this ring last year.

We have for the last two years had what we call a grange exhibit. Our county has fourteen granges, and the first year we had six entries. Last year we had eight and this year we hope to have ten or twelve. You understand the grangers are mostly all farmers, and getting these men interested bids fair to be and is one of our greatest features. We give a $300 premium for this exhibit, divided into eight moneys.

We are adding to our premium list this year a premium for a calf fed by a boy or girl under 18 years, and we hope to make this one of our best rings. We are giving $100 for this, divided into five premiums. Our contention is and has always been that no county fair can live and have good races and good show rings, too. One of the other will die out, or perhaps both will.

We have a fifth of a mile track, and when one sees our harness and roadster rings shown you will not hear on every hand that a certain horse would have won "but the driver held him." The horses on our track go for "blood," no pulling. Most every one would rather see a slow race on the square than a fast, "fixed" one. I don't want to be understood as meaning that all good races are fixed and none "on the square," but there is always more or less talk. Our idea is, either have races and no show rings or have a genuine county fair and no races.

As I said in the beginning, we are off the railroad, yet we have quite a lot of cattle, hogs and sheep from a distance. We haul all hogs and sheep to and from our fair and all cattle supplies free.

To give you an idea of our "pumpkin show," as it is termed, I will tell you a little about a few of our rings. We have had as many as 26 harness colts, 16 buggy mares or geldings, 14 mule colts, 12 draft colts and 8 herds of cattle in their respective rings. We have also had 167 hogs and 70 sheep on our grounds at one fair.

We think that to have a county fair, as I said before, you must have stock. Therefore get the stockmen interested, see that they are comfortably located and try to make them feel at home. Make your premiums large enough that if the exhibitor wins a few premiums he can pay his expenses and take a little money home with him. A fair of this kind will prove very beneficial to a community.

Our money is distributed among the farmers and not to race horses, and any one can see the great improvement in the stock in this community in the last seven years.

We have no gambling of any kind on the grounds, not even these little spindle games for the children to get started to gambling. We have one of the best concession men in the State, and if they set up their stand and their "layout" doesn't suit somebody will have to "shut up shop." By this means we have the hearty co-operation of all the best people of the community. They know they can come and bring their children without temptation on every hand.

We would say, in conclusion, to organize a county fair get as many farmers as possible interested, get a live board of directors, make your premiums as large as possible, do not try to lay up too much—only a small amount for a rainy day. Keep the gambling and bad characters off your grounds and we think you can make it go.

STATE AID FOR COUNTY FAIRS.

(W. L. Nelson.)

The Forty-seventh General Assembly of Missouri appropriated $30,000 per annum, or so much thereof as might be necessary, for the purpose of aiding county fairs. The law provides that each county fair or agricultural society within the State of Missouri shall be entitled to receive thirty per cent (30 per cent) of the total amount of premiums paid at such annual fair or society for the exhibits of horticulture, agriculture, poultry, live stock, fancy work, school exhibits and domestic and mechanical arts, etc. The provisions as set forth in section 2 of said act are as follows:

> On or before the 15th day of November of each year the president and secretary of each county fair or agricultural society within the State of Missouri, and claiming the benefit of any such appropriation, shall file with the Secretary of the State Board of Agriculture a sworn statement of the actual amount of cash premium paid at the fair of the current season, which must correspond with the public offer of premiums, and a further sworn statement that at such fair all gambling and gambling devices of whatsoever kind, and the sale of intoxicating liquors, have been prohibited and excluded from grounds of such county fair or agricultural society, and all adjacent grounds under their authority or control. Such statement shall be accompanied by an itemized list of all premiums paid upon such thirty per cent premium as claimed, and a copy of the published premium list of such fair, and a full statement of receipts and expenditures for the current year, not including the speed list, duly verified by the secretary of such fair or agricultural society. The President and Secretary of the State Board of Agriculture shall thereupon file such statement, together with a recommendation

that such fair or agricultural society receive said thirty per cent, with the Auditor of the State of Missouri, and said Auditor shall thereupon draw his warrant upon the State Treasurer for such amount. Such money shall be paid to the treasurer of the county fair or agricultural society upon his receipt, countersigned by the president and secretary: *Provided*, that the amount to be paid to any such county fair or agricultural society during any one year shall not exceed the sum of three hundred ($300.00) dollars.

Under this law, which was new and untried in Missouri, a number of applications which were received were rejected on the ground that they did not represent either agricultural fairs or agricultural societies. A few applications were received too late. Sixty-eight applications were approved by the President and Secretary of the Board of Agriculture and recommended to the State Auditor for payment. The sum distributed to these fairs was $14,752.96. The following statement shows the fairs aided: Kennett, Dunklin county, $171.50; Springfield, Greene county, $95.40; Maitland, Holt county, $81.16; Shelbina, Shelby county, $300; Green City, Sullivan county, $164.07; Nevada, Vernon county, $132.60; Lamar, Barton county, $300; Chillicothe, Livingston county, $165; Wright City, Warren county, $127.69; Bolckow, Andrew county, $64.80; Mexico, Audrain county, $300; Butler, Bates county, $172.50; Columbia, Boone county, $300; Easton, Buchanan county, $148.65; New Bloomfield, Callaway county, $300; Cape Girardeau, Cape Girardeau county, $300; Carrollton, Carroll county, $182.10; Harrisonville, Cass county, $198.97; Billings, Christian county, $94.50; Plattsburg, Clinton county, $300; Pattonsburg, Daviess county, $157.08; Campbell, Dunklin county, $264.60; Sullivan, Franklin county, $153.82; Hermitage, Hickory county, $86.53; Armstrong, Howard county, $105.30; Newark, Knox county, Lewis and Shelby counties, $300; Carthage, Jasper county, $300; DeSoto, Jefferson county, $206.92; Festus, Jefferson county, $214.60; Higginsville, Lafayette county, $300; Monticello, Lewis county, $300; Troy, Lincoln county, $300; New Cambria, Macon county, $155.92; Atlanta, Macon county, $132.15; LaPlata, Macon county, $180; Paris, Monroe county, $300; Monroe City, Monroe county, $169.44; Montgomery City, Montgomery county, $300; Rolla, Phelps county, $300; Bowling Green, Pike county, $300; Platte City, Platte county, $300; Bolivar, Polk county, $219.22; Jacksonville, Randolph county, $197.92; Moberly, Randolph county, $300; New London, Ralls county, $300; Marshall, Saline county, $300; Memphis, Scotland county, $143.47; Birch Tree, Shannon county, $55.35; Forest Green, Chariton county, $72.22; Prairie Hill, Chariton county, $115.20; Kahoka, Clark county, $266.82;

Lockwood, Dade county, $181; Trenton, Grundy county, $300; Sikeston, Scott county, $300; Mansfield, Wright county, $55.12; Clark, Randolph county, $290.86; Cuba, Crawford county, $300; Palmyra, Marion county, $300; Knox City, Knox county, $300; Maysville, DeKalb county, $224.47; Independence, Jackson county, $300; Fayette, Howard county, $300; California, Moniteau county, $249.39; Brookfield, Linn county, $274.50; Linn, Osage county, $113.52; Ava, Douglas county, $77.32; Piedmont, Wayne county, $191.28; Bunceton, Cooper county, $300.

SOME FACTS ABOUT MISSOURI FAIRS.

(W. L. Nelson.)

The following facts concerning Missouri county fairs are compiled from reports made to the Secretary of the State Board of Agriculture in connection with applications for State aid:

As between the street fair with its side shows, and the big speed meets, the old-fashioned fair has been having a fight for existence. This is true, notwithstanding that practically all county fairs are conducted at a minimum of cost. Generally the secretary, who is expected to do $1,000 worth of work for from $25 to $100, is the only officer or director who draws a "salary." In practically every instance the president and all the directors serve without pay, giving freely of their time and often of their money to make the fair a success. Despite all this attempt at saving, forty-one of the sixty-eight Missouri county fairs that received State aid during the year 1913 are in debt. The total indebtedness of these forty-one fairs is $62,809.95, and ranges from $175 to $15,000. In the majority of cases where the indebtedness is any considerable amount or of long standing it has been occasioned by the purchase of land or the erection of buildings. The twenty-five fairs that are out of debt have accumulated a total surplus of $11,773.76.

The total value of buildings and grounds owned by the sixty-eight associations is $154,395. Of this amount the grounds alone represent an investment of $104,550 and buildings $49,845. Of the associations reporting, forty-one own their own grounds while the others have grounds leased. The real estate holdings of twenty-one associations each amount to $5,000 or more. Thirteen associations each have as much as $5,000 invested in buildings. Total investments of twenty each amount to $10,000 or more.

Forth-eight fair associations are incorporated for a total of $341,000. Some of the largest are, Howard County Fair, Fayette, $10,000; Pike County Fair, Bowling Green, $10,000; Knox City Agricultural and Mechanical Society, $14,000; Tri-County Fair, Sikeston, $20,000; Jasper County Fair, Carthage, $30,000; Livingston County Fair, Chillicothe, $12,000; Moberly Fair Association, $10,000; Cape Girardeau Fair, $15,000; Dunklin County Fair, Kennett, $12,000; Sullivan Tri-County Fair, Linn County, $10,000; Green County Fair, Springfield, $20,000; Vernon County Agricultural and Mechanical Society, $10,000. Twenty-eight fairs are not incorporated or else fail to make reports covering this point.

The "actual amount of cash premiums paid, exclusive of premiums or purses for speed events," was $72,612.30 for the sixty-eight associations reporting for the year 1913. Among the fairs at which such premiums paid amounted to $2,000 or more were Columbia, $2,924.20; Bowling Green, $2,352.05; Knox City, $2,030.82; New Bloomfield, $3,460; Higginsville, $4,505.75; Mexico, $2,026; Monticello, $3,064.56. Big saddle horse stakes of $1,000 to $1,500 were responsible for the liberal showing of premiums as paid by most of the associations in this larger list.

More than half a million people attended sixty-eight Missouri county fairs held during the year 1913. The attendance figures 532,856. Some of the fairs having large attendance were: Columbia, 20,583; Bowling Green, 18,000; Knox City, 22,000; Sikeston, 16,200; Carthage, 25,000; Trenton, 9,014; Bunceton, 10,500; New Bloomfield, 10,000; Moberly, 17,950; Independence, 10,000; Cape Girardeau, 17,500; Kennett, 14,400; Brookfield, 12,736; Memphis, 10,000; Troy, 10,000; Mexico, 15,000; Springfield, 10,000; Pattonsburg, 10,919.

Most fair associations charge 35 cents admission for adults. A number charge 50 cents, while a few still hold to the old 25-cent rate. A charge of 15 cents is in most instances made for children under 10 or 12 years of age, but the tendency is to raise this to 25 cents. With the increased cost of labor, material and practically everything else, fair managements are finding that they must have more money with which to operate. Especially is this true where, because of street fair competition or for some other reason, the customary ten per cent entrance fee on all exhibits has been discontinued. A large number of fairs are now advertising "entrance free in all departments." While this innovation results in increasing the show of live stock and agricultural products, it means in the end, unless the better exhibits result in an increased attendance, a falling off in receipts.

The live stock exhibit is always one of the big features of a county fair, and among live stock at the average Missouri fair horses take first place. At sixty-eight fairs held in the State last year horse entries totaled 5,439 head. The Missouri County Fair Cattle Show for 1913 was made up of 1,405 head. Of the beef breeds Shorthorns and Herefords were exhibited in largest numbers. The growth of the dairy interests in the State is reflected in the larger number of Jersey, Holstein and other dairy breeds of cattle. Missouri is the third hog state in the Union, yet the number of hogs reported as having been shown at county fairs is but 1,787 head. The fear of cholera doubtless kept many hog breeders from showing their stock. Sheep exhibited numbered 959 head. Of goats and "other stock" 42 head were entered. All told, 11,580 head of horses, mules, jacks, jennets, hogs, sheep and other animals were shown. In addition, poultry was exhibited at practically every county fair, 6,439 birds having been exhibited.

Stockholders in sixty-eight Missouri county fairs number 8,875. Par values of shares range from $5 to $100, with $10 a popular figure. Experience has demonstrated the wisdom of having a large number of people interested in the success of the local fair. The fair at Palmyra has 417 stockholders; Columbia, 242; Rolla, 340; Bunceton, 500; Butler, 225; Independence, 1,000; Cuba, 374; Cape Girardeau, 980; Festus, 215; Sullivan, 265; Maitland, 320; Lamar, 200, and Shelbina, 240.

The Missouri Corn Growers Association.

"Increase the Yield—Improve the Quality."

OFFICERS.

H. G. Windsor, Boonville, President.
C. B. Hutchison, Columbia, Secretary-Treasurer.
F. L. Bentley, Columbia, Assistant Secretary.

VICE-PRESIDENTS.

W. C. Hutchison, Jamesport, Northwest District.
Alonzo White, Jr., Palmyra, Northeast District.
E. L. Hughes, Glasgow, Central District.
M. McCauley, Doniphan, Southeast District.
Simon Baumgartner, Pierce City, Southwest District.

THE WORK OF THE MISSOURI CORN GROWERS' ASSOCIATION.

(T. R. Douglass.)

T. R. Douglass.

The annual meeting of the Missouri Corn Growers' Association was held in Columbia during Farmers' Week, January 12 to 16, 1914. The annual corn show was held in connection with this meeting and was in many respects by far the most successful exhibition held by the association. The attendance at the show was larger by several hundred than it had ever been. The interest was also far greater, as all visitors were curious to know just what Missouri corn and small grain growers could produce in such an unfavorable season as 1913. And lastly, the number and quality of exhibits far exceeded those of any other year. In 1912 the high water mark was reached in the number of entries at the show, over 500 separate exhibits being on display. At that time it was freely predicted that the show could not grow much more, but this year 666 entries were on display and the quality was up to the average, the quality of the small grains being far above that of any previous year.

The annual show is conducted by the members of the Missouri Corn Growers' Association purely as an educational exhibition where the various types of corn and small grain best adapted to Missouri conditions may be compared and criticised. New classes have been added to the show each year so that at the present time prizes are offered for seed of practically all the most common Missouri crops. Each year the membership in the association increases, and it is earnestly hoped that the year 1914 will see at least 1,000 of the best farmers in Missouri united in the organization whose object is the betterment of Missouri crops. Surely there are at least ten men in each county who would be profited by membership in the Missouri Corn Growers' Association.

The Missouri boys' corn growing contest, the junior division of the Corn Growers' Association, had a chance this past year to prove its real worth, and many boys who planted corn in the spring of 1913 would have given up the fight when the dry weather came on had it not been for the encouraging information sent to them. Careful work surely did repay these boys during the past year. The winning acre in the boys' acre-yield contest yielded nearly 110 bushels of corn, this being only three-fourths of a bushel less than has been reported by a member of the Missouri boys' corn growing contest in any previous year. There are 10,000 farm boys in the State of Missouri who should enroll in the boys' corn growing contest in 1914. Too much credit for the success of the work with the boys cannot be given to the rural school teachers and county school superintendents who have interested the boys in the boys' corn growing contest.

The educational work of the Missouri Corn Growers' Association has accomplished some splendid results. The efforts during the past ten years have been directed mainly to the spreading of good seed corn to every section of the State, but much attention is now being given to breeding corn for yield and to the adaptation of corn and small grain varieties to Missouri conditions.

Awards in acre-yield contest were as follows:

Men's Acre-Yield Contest, North Missouri Bottom Land—1, Thos. Slawson, Rea; 2, R. A. Hatfield, Trenton; 3, W. A. Jordan, Shelbina.

North Missouri Upland—1, N. C. Bruce, Dalton; 2, no entry; 3, no entry.

South Missouri Bottom Land—1, T. A. Wylie, Chaffee; 2, C. H. Morrison, Aurora; 3, no entry.

South Missouri Upland—No entries.

Awards in the boys' acre-yield contest were as follows:

North Missouri—1, Hubert Corken, Burlington Junction; 2, Grant J. Gates, Ravenwood; 3, Sam Fortney, Columbia; 4, A. M. Rice, Hickory; 5, Harvey Jordan, Shelbina.

South Missouri—1, Oliver A. Hahne, New Haven; 2, G. S. Hensley, Jackson; 3, Otto McCormick, Seligman; 4, Cecil Browning, Verona; 5, Willis Wissman, Cape Girardeau.

The election of officers was as follows: President, H. G. Windsor, Boonville; secretary-treasurer, C. B. Hutchison, Columbia; assistant secretary, F. L. Bentley, Columbia. Vice-presidents are: W. C. Hutchison, Jamesport, Northwest district; Alonzo White, Jr., Palmyra, Northeast district; E. L. Hughes, Glasgow, Central district; M. McCauley, Doniphan, Southeast district; Simon Baumgartner, Pierce City, Southwest district.

MISSOURI AT THE NATIONAL CORN SHOW.

(T. R. Douglass.)

Missouri corn and small grain exhibitors fared unusually well at the National Corn Exposition held in Dallas, Tex., February 10-24, 1914. Competition was open to the world and there were from 15 to 50 entries in every class. Awards to Missouri exhibitors were as follows: Bushel of corn, fourth place, J. G. Douglass, Shelbina; 10 ears late sweet corn, world's championship, Chris Smith, Bunceton; 10 ears pop corn, third place, Karl Zimmerman, Amazonia; peck red clover seed, world's championship, Will Redford, Fayetteville; peck red clover seed, fourth place, L. E. Rice, Hickory; peck red clover, fifth place, R. E. Powell, Palmyra; peck of cowpeas, world's championship, R. L. Fronabarger, Oak Ridge; peck of cowpeas, second place, George Stark, Arcadia; peck of cowpeas, fourth place, S. Baumgartner, Pierce City; sheaf of foxtail millet, world's championship, Chris Smith, Bunceton; sheaf of orchard grass, honorary, Chris Smith, Bunceton; peck black oats, central zone, first, Chris Smith, Bunceton; peck red oats, central zone, first, H. E.

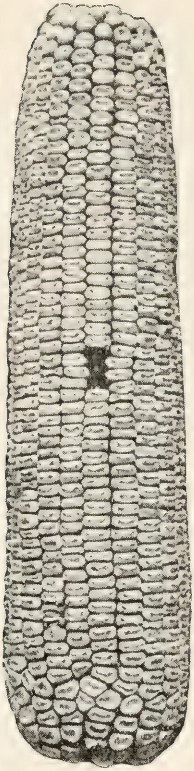
Greninger, Carthage; 10 ears white corn, central zone, second, J. G. Douglass, Shelbina; 10 ears yellow corn, central zone, third, J. G. Douglass, Shelbina.

The central zone comprises the states of Ohio, Indiana, Kentucky, Illinois, Iowa, Missouri, Kansas and Nebraska. Thirty-seven states and the Dominion of Canada were represented with competitive exhibits in the "open-to-the-world" classes.

In addition to the competitive grain from Missouri, the College of Agriculture sent an interesting display featuring the arrangement and display of Experiment Station material at county fairs.

SOME FACTORS INFLUENCING THE YIELD OF CORN.

(C. B. Hutchison, professor of farm crops, University of Missouri.)

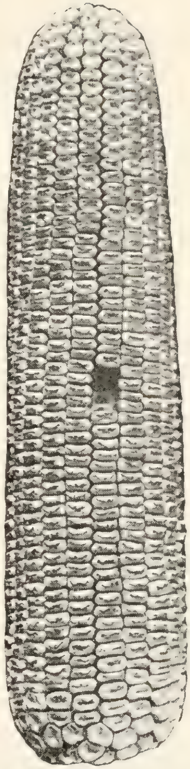


First prize single ear shown by boy. Shown by Oscar Douglass, Shelbina, Mo., in annual Missouri State Corn Show, 1914. Winner of Ruralist trophy.

The average yield of corn in the United States during the five-year period of 1906-1910 was 28.5 bushels per acre. At the same time the average yield in Missouri was a little less than 30 bushels per acre. During the season of 1913 one member of the Missouri Corn Growers' Association grew 114 bushels of air-dried corn on an acre of ground, and five boys in the boys' corn growing contest of the association averaged more than 92 bushels per acre, in spite of one of the most severe drouths the State has ever experienced. Every year yields of considerably more than 100 bushels are reported over the main corn belt, while in the south yields of more than 200 bushels have frequently been recorded. It would seem, then, that the corn plant as it exists today is able to yield much more than we ordinarily obtain from it, and that much larger yields may be expected if conditions are made favorable for its growth and development. A brief consideration of some of the factors which are responsible for these low yields is the purpose of this discussion.

The Important Factors.—Those factors which influence the yield of corn and which are to a greater or less degree under the control of the farmer may be grouped under three main heads: First, those pertaining to the seed; second, those pertaining to the soil, and third, those pertaining to the care or protection given the crop in the way of seed, preparation and cultivation. The two important methods of increasing the yield of the corn crop, then, must be through the improvement of the plant and through the improvement of the soil in cultural methods.

Good Seed.—It need hardly be said to the members of this Missouri Corn Growers' Association that one of the first requisites of a good crop is good seed. In spite of all that has been said and written regarding the importance of good seed, however, there are still a great many people who pay little attention to the matter of selection and care of seed corn. It has been demonstrated many times that seed corn gathered in the fall and stored in a dry and well ventilated place is stronger in vitality and usually yields better than seed which has been stored in the crib over winter. This decrease in yield from poor seed is not alone due to poor germination, but in some way the seed is perhaps weakened and its vitality lessened so that lower yields usually result than from seed which has received good care.



Grand champion single ear, eleventh annual Missouri State Corn Show. Shown by C. N. Daly, Palmyra. Winner of association single ear trophy.

Not only should seed be good in the sense of being able to make a vigorous growth, but it should be of a variety well suited for the environmental conditions under which it is to be planted. The importance of the variety is well illustrated in the following data from the Missouri Experiment Station. Some twenty-five varieties of corn have been tested under similar conditions for a number of years. As an example, the average yield of the two best and the two poorest varieties for years are as follows:

AVERAGE YIELD PER ACRE OF TWO OF THE HIGHEST YIELDING VARIETIES AND TWO OF THE LOWEST YIELDING VARIETIES OF CORN.

MISSOURI EXPERIMENT STATION.

Variety.	1910.	1911.	1912.	1913.	Average.
Commercial White	82.30	38.49	86.51	34.93	60.55
St. Charles Yellow	62.05	37.67	85.63	46.90	58.06
Silvermine	56.45	28.01	45.52	38.82	42.20
Pride of the North	28.19	25.41	49.94	36.92	35.11

Varieties vary considerably in their ability to yield in any given locality, and a high yielder in one state, or even in one section of a state, may not be the one best adapted for another. In every state in the corn belt there are varieties of corn which have been developed by long continued selection under certain environmental conditions and which have come to be particularly well adapted there. The corn grower who may not care to go into the business of corn breeding can do no better than to make use of one of these standard varieties. The careful farmer will determine what variety best suits his purpose, either by trial or by seeking the information from the Experiment Station, and then obtain his seed from some reliable grower who makes a business of seed corn production.

One should also take the precaution to obtain seed grown as nearly as possible under the same conditions of environment as those under which he expects to plant it. It is a well established fact that corn brought in from a distance yields less than native seed of the same variety. This is well illustrated by data from the Nebraska Experiment Station.*

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*Nebraska Agricultural Experiment Station, Bulletin 126, 1912.

EFFECT OF ACCLIMATIZATION ON THE YIELD OF CORN.

NEBRASKA EXPERIMENT STATION.

Variety and origin.		1903.	1904.	1905.	Average.	Difference.
Silvermine	Nebraska	....	70.0	76.1	73.0	....
	Illinois	....	65.1	63.4	64.2	8.8
Leaming	Nebraska	....	95.2	69.8	82.5	....
	Illinois	....	76.6	72.3	74.4	8.1
Snowflake White	Nebraska	73.7	84.8	74.5	77.7	....
	Iowa	68.7	72.8	67.1	69.5	8.2
Boone County White	Nebraska	....	76.2	....	76.2	....
	Illinois	....	68.9	....	68.9	7.3
Early Yellow Rose	Nebraska	68.1	67.9	75.1	70.3	....
	Iowa	62.1	76.9	63.5	67.5	2.8
Reid's Yellow Dent	Nebraska	....	83.8	64.2	73.7	....
	Illinois	....	82.8	60.8	71.8	1.9
Average						6.2

It will be seen from this data that home grown seed of these six varieties when planted under similar conditions yielded on an average of 6.2 bushels more corn per acre than seed not acclimated.

White oat trophy donated by the Atlas Oat Co., Kansas City, Mo. Awarded at annual Missouri State Corn Show, 1914. Won by S. P. Stephenson, Canton, Mo.

GOOD SOIL.

The second great group of factors influencing the yield of corn are those pertaining to the soil. These are many in number and varied in character and it is possible in the space of this paper to consider only the most important. It is obvious that to produce a good crop of corn one must have productive soil. The productiveness of many soils in the corn belt has been materially lessened by mismanagement and poor businesslike methods of farming, and to a vast majority of corn growers in this region the first step to take in increasing their yield of corn is to make their soil better. Likewise to the others one important consideration at least is to keep their soils productive, for it is much easier to maintain the productiveness of soils than it is to build up the fertility of worn lands and make a living on them at the same time. I want to briefly call your attention to some things a man can do to accomplish these ends.

The Cropping System.—One of the most important factors influencing the yield of corn is the cropping system, which has a marked influence upon the fertility of the soil. The gross returns from the corn crop are not great enough to justify the expense of heavy applications of fertilizers and manures that it is possible to make with tobacco, potatoes, tomatoes and other special or truck crops, and we must, therefore, depend largely upon the cropping system to maintain the yield of the corn crop. It is, of course, profitable to use manures and fertilizers on the corn crop as will be indicated later, but to be most efficient it is necessary that these be used in connection with a systematic rotation of crops. In this connection let us consider briefly the history of the development of cropping systems in America. When any new section is settled up it has been our practice to follow for a number of years what we might term a one-crop system: In the south cotton, in the middle west corn and in certain parts of the west wheat has been the chief crop grown. Such a plan usually continues with very little if any variation for forty or fifty years, or until the land begins to fail. Then the farmer begins the alternation of crops such as corn and oats, corn and wheat, corn and tobacco, or corn and grass, which we may term a two-crop system. This is not carried out systematically, but since most farmers recognize the importance of simply changing crops on a field it is looked upon as a means of maintaining yields. This plan likewise usually continues for some thirty-five or forty years, finally giving place to a definite and systematic rotation system. In many of the newer sections of the west the one-crop system of corn or wheat is still practiced. As we come east we first find a region just west of the Mississippi river where the two-crop system is largely practiced. As we proceed eastward we finally find in Ohio, New York, Pennsylvania and other eastern states regions in which systematic crop rotation is very definitely defined. In Missouri and surrounding states we are just passing from the two-crop system to that of a definite rotation, and a great many of our farmers are beginning to practice definite rotations. This will become more pronounced as our lands grow older and thinner under the present system of management.

More or less manure and fertilizers are used with all three of these systems, but such treatment usually accompanies the last two.

The effect of the cropping system on the yield of corn is well illustrated by the work of the Illinois Experiment Station*, where different plots of land have been under different cropping systems for more than thirty years.

EFFECT OF CROPPING SYSTEMS ON THE YIELD OF CORN.

ILLINOIS EXPERIMENT STATION.

(Average yield of three last years of corn.)

Crop years.	Cropping system.	13-year experiments	29-year experiments.
1905-'6-'7	Corn every year	35 bushels per acre	27 bushels per acre
1903-'5-'7	Corn and oats	62 bushels per acre	46 bushels per acre
1901-'4-'7	Corn, oats, clover	66 bushels per acre	58 bushels per acre

The original productive capacity of the land on which these experiments were conducted was more than 70 bushels per acre. It will be seen that there has been some decrease in yield in all cases, but the decrease has been less where rotation was practiced than where one or two-crop systems were employed. This is due largely to the fact that the organic matter of the soil has been more nearly maintained under rotation and also to the fact that certain insect pests and plant diseases have been better controlled by rotation.

Similar data have been obtained at the Missouri Experiment Station, as will be seen from the following table:

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*Illinois Agricultural Experiment Station, Bulletin 125, 1908.

EFFECT OF CROPPING SYSTEM AND MANURE ON THE YIELD OF CORN. MISSOURI EXPERIMENT STATION.

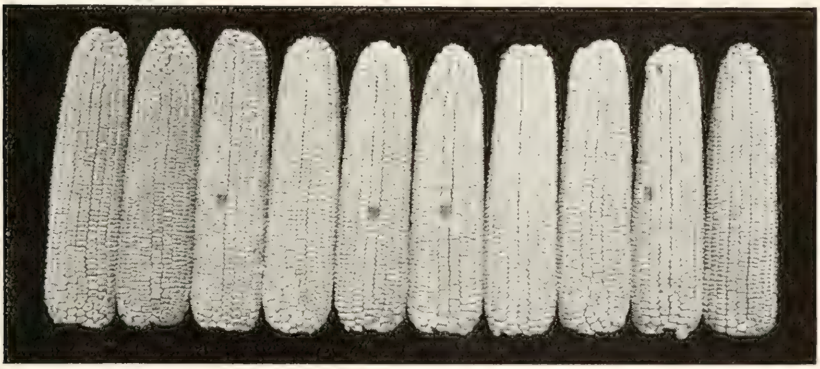
Crop years.	Cropping system.	Average yield of corn.	
		No treatment.	Manured.
1911-'12-'13.......	Corn continuously	15.72 bushels per acre	25.04 bushels per acre
1907-'10-'13........	Corn, wheat, clover	25.89 bushels per acre	36.58 bushels per acre
1898-1902-'06-'11...	Corn, oats, wheat, clover	37.37 bushels per acre	48.00 bushels per acre

The importance of a good cropping system cannot be too strongly emphasized. It is the first step to be taken in the maintenance of the fertility of our soil. Under continued cropping, especially of a cultivated crop like corn, the supply of available plant food present in virgin soils is largely depleted and conditions are brought about that are unfavorable for the making available or soluble of the plant food locked up, so to speak, in the mineral grains of the soil. This condition is brought about largely through the depletion of the content of organic matter in the soil which is broken down rapidly under continued cultivation, as organic matter decays in soils carbonic and humic acids are formed which increase the solvent action of the soil water upon the mineral grains. Fresh decaying organic matter is also

Donated by
Springfield Mo
for

Wheat trophy, donated by John F. Meyers & Sons Milling Co., Springfield, Mo. Awarded at the annual Missouri State Corn Show, 1914. Won by W. C. Young, Carthage, Mo.

beneficial in that it promotes bacterial growth and in this way helps set free plant food. This, together with the beneficial physical effect that organic matter has upon soils in making them work easier and in increasing their water-holding capacity, emphasizes the importance of maintaining a good supply of organic matter if the soils of the corn belt are to remain productive. Since this is best accomplished through rotation of crops, together with the use of manure and green manuring crops, it is evident that a good cropping system is by far the most important single factor influencing the yield of crops. But the cropping system alone will not maintain the yield where the crops are removed. It is necessary that this be supplemented either with manure or fertilizers or both if the yield is to be maintained.



Champion ten ears white corn, eleventh annual Missouri State Corn Show. Shown by J. G. Douglass, Shelbina, Mo.

In another series of plots at the Illinois Station a corn-oats-clover rotation was practiced where all was returned to the land except the grain and clover seed harvested. In one case the corn stover, oat straw and the clover straw were turned under, together with legumes as catch crops. This system was designated as "grain farming," and was compared with a second scheme in which all of the crops were removed but equivalent manure returned and which was called "live stock farming." The effects of these two systems upon the fertility of the soil were compared where no further soil treatment was given and where lime and mineral fertilizers were used as supplements. The following table illustrates the influence of the two systems upon the yield of the corn crop:

GRAIN FARMING VS. LIVE STOCK FARMING.

ILLINOIS EXPERIMENT STATION.*

Crop years.	Soil treatment.	Yield of corn.	Bushels per acre.
		Grain farming.	Live stock Farming.
1905-'6-'7	None	69	81
1905-'6-'7	Lime	72	85
1905-'6-'7	Lime, phosphorus	90	93
1905-'6-'7	Lime, phosphorus, potassium	94	96

It will be seen that the growing of legumes as catch crops and returning all crop residues has maintained the yield and when in the form of manure has increased the yield. When minerals have been added the yield in both cases has been actually increased about twenty per cent. We may, therefore, conclude that it is possible to maintain and actually increase the yield of corn in a system of grain farming by the proper use of green manures, crop residues and mineral fertilizers, the final result being practically the same as under a system of live stock farming where manure and fertilizers were used. Where fertilizers are not used, however, the live stock system is to be preferred. It would seem, therefore, that the most successful scheme of soil management for the corn belt farmer and the one which will best enable him to increase the yield of his corn crop is that which combines a good cropping system with the use of manures and fertilizers.

The Use of Manure.—It is not only important that the farmer practice a systematic crop rotation in order to maintain the yield of his crops, but such a system must be supplemented by the use of manure or fertilizer if the greatest returns are to be had. Unfortunately, not every farmer realizes the value of manure, and many others do not take the care of it that its value in increasing crop yields justifies. In fact, it may be said that fully one-half of the value of the manure produced on the farms in the corn belt is wasted. The value of manure in maintaining the yields of crops is no better illustrated than by the work of the Ohio Experiment Station, where its effects upon the corn crop as well as upon other crops in the rotation have been studied for a period of years.† Where corn has been grown continuously for nineteen years at this station, an application of two and one-half tons of yard manure per acre annually has increased the yield of corn 12.21 bushels, while the increase from five tons of manure under similar circumstances has been 22.51 bushels, with corresponding increases in the stover. The value of these increases has been $5.70 and $10.39, respectively, or a value of $2.28 per ton of manure for the lighter application and $2.08 per ton for the heavier.

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* Illinois Experiment Station, Bulletin 125, 1908.

† Ohio Experiment Station, Circular 131, 1913.

In a rotation the value of manure is even more apparent than when used in connection with a one-crop system. In a five-year rotation of corn, oats, wheat, clover and timothy at the Ohio Experiment Station manure has been applied in one case at the rate of 8 tons per acre before corn and wheat and in another case at the rate of 4 tons before each of these crops. The increase in the yield on each crop is shown in the following table:

EFFECT OF MANURE ON THE YIELD OF CROPS GROWN IN FIVE-YEAR ROTATION OF CORN, OATS, WHEAT, CLOVER AND TIMOTHY.

OHIO EXPERIMENT STATION.

Manure applied before corn and wheat in the rotation.	Average annual increase per acre for 19 years.				
	Corn, bushels.	Oats, bushels.	Wheat, bushels.	Clover, pounds.	Timothy, pounds.
8 tons per acre	22.96	12.14	11.77	2,065	1,504
4 tons per acre	14.11	7.40	7.66	2,167	980

The value of the manure is best illustrated in the following table, which summarizes the value of the increase in each crop:

AVERAGE VALUE OF TOTAL INCREASE PER ACRE FOR EACH ROUND OF THE ROTATION.*

Total amount of manure applied.	Value of increase.				
	1st 5 yrs.	2d 5 yrs.	3d 5 yrs.	19 yr. average.	Value per ton.
16 tons per acre	$19.82	$34.24	$55.94	$39.84	$2.47
8 tons per acre	13.02	21.28	35.36	24.54	3.06

* Ohio Experiment Station, Circular 131, 1913.

It will be seen from this data that manure is more valuable when used in connection with a crop rotation than when used alone, and furthermore, that greater returns per ton of manure were obtained from the lighter applications than from the heavier. It would seem then a good practice where the manure supply is limited, as it is on most farms, to make a lighter application over a greater area than a heavier treatment to a smaller area.

Supplementing Manure.—The Ohio Station has also demonstrated that the value of manure may be increased by adding a small amount of mineral fertilizer with it.* This is especially true where it has been supplemented with phosphates. The following table summarizes the data showing a marked increase in the value of the manure where treated:

VALUE OF MANURE TREATED WITH 40 POUNDS PER TON OF DIFFERENT MINERALS APPLIED BEFORE CORN IN A THREE-YEAR ROTATION OF CORN, WHEAT AND CLOVER.

AVERAGE TOTAL INCREASE PER ACRE FOR ONE ROTATION.

Amendment used.	Cost of treatment per acre.	Value of increase.	
		Total per acre for one rotation	Net per ton of manure.
Floats	$1.40	$34.02	$4.08
Acid phosphate	2.40	38.59	4.52
Kainit	2.70	29.68	3.37
Gypsum	1.00	27.27	3.28
Untreated manure	....	23.52	2.94

Manure with the Hay Crop in the Rotation:—In the Ohio experiments to which we have referred the manure was applied to the grain crops in the rotation—corn and wheat. Some recent work at the New York (Cornell) and Pennsylvania Experiment Stations has indicated that it may be more profitable to use manures and fertilizers with the hay crop in the rotation than with corn. It would seem that this is due to the fact that the fertilizers stimulate the growth of roots in the hay and thus have more organic matter for the grain crops following, while the reverse would not necessarily be true. In these experiments it was found that the residual effect of manures and fertilizers was very marked, ten tons of manure per acre with the hay crop giving an increase on the corn following of 110 per cent over the untreated plots. It would seem then to be a good practice on large farms where long rotations are used to apply the manure to the grass crops in the latter years of the rotation.

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* Ohio Experiment Station, Circular 131, 1913.

INFLUENCE OF RAINFALL.

Water is the most important food of the corn plant and upon its supply the yield of the crop depends more than upon any other factor. Crops suffer each year from too much as well as too little moisture. The draining of wet lands both by surface and underdrainage and the construction of dikes and levees to prevent overflows is each year increasing the acreage of land on which corn may be grown. At the same time it may be said that the corn crop as a whole suffers more from a deficiency of water than from an excess, and one of the most important factors influencing the yield of corn is that of rainfall.

The rainfall in the corn belt during the months of June, July and August has been found to be closely correlated with the yield of corn. This is especially true of the month of July. Although the average rainfall in most sections of the corn belt ranges from 30 to 40 inches, there is hardly a season passes that in some sections the yield of corn is not seriously cut by insufficient rainfall. This was especially well illustrated in Missouri during the past year. The State experienced one of the most severe drouths in its history and one of the lightest corn crops on record was produced. Yet the total rainfall for the season was not far below normal. It is not the total rainfall of the year then that cuts the yield of our crops, but rather its unequal distribution. It has been found that from 14 to 20 tons of water are required to produce one bushel of corn. This equals from 7 to 14 surface inches for an average crop of 50 bushels. To this must be added the loss from seepage runoff and surface evaporation which under field conditions is sufficient to bring the total water requirement up to from 12 to 14 inches.

An average corn soil in good tilth will store about five or six inches of available water in the upper four feet. A 50-bushel crop of corn would then require at least six inches additional rainfall during the growing season, and probably even more than this, for the plant's growth would be checked before it had exhausted the soil moisture to low limits. A 75-bushel crop would require an additional rainfall of at least ten inches and a 100-bushel crop fifteen inches during the growing season. On rolling land and where the rainfall comes in downpours it is evident that this estimate should be increased.

Most of the available water stored in the soil will have been exhausted by the time the corn plants are four or five feet high, and unless more comes in the form of rainfall the plants must suffer, as the rise by capillarity from the lower depths of the soil is hardly rapid enough to supply the plant's needs at this stage of its growth.

Unfortunately, or fortunately, the weather is not in our control, but there are some things that a farmer can do to conserve the supply of soil moisture. Deep and early plowing will increase the amount of available moisture and frequent and shallow cultivation to keep a dust mulch on the ground while the corn plants are small and the conditions of the field more nearly those of fallow land will conserve considerable quantities of water that would be lost by evaporation. Keeping the soil in good tilth with a good supply of organic matter will also increase its absorbing and retaining power. Furthermore, less moisture is required by plants in a fertile soil than in an infertile one. Hence it is evident that keeping the soil fertile will tend to lessen the injurious effects of a drouth.

DONATED
BY
E J MAHONY
DEXTER MO.
FOR
CLOVER SEED
MISSOURI

Clover seed trophy, donated by E. J. Mahony, Dexter, Mo. Awarded at annual Missouri State Corn Show, 1914. Won by W O. Redford, Fayetteville, Mo.

GOOD CULTIVATION.

We pass now to a consideration of the last of the three groups of factors influencing the yield of corn—the care and protection of the crop. These embrace all of the various cultural operations included in the preparation of the seed bed, planting and cultivation of the crop which have for their purpose the protection of the crop from the various factors opposing its highest development.

Many of these factors are too well understood to warrant their discussion in this connection, for the art of corn growing is old though the science is new. Practices differ with soils, with seasons and with custom. As for the seed bed, suffice it is to say that it should be well prepared, the plowing usually deep, especially on heavy soils, and the best part of the cultivation done before the corn is planted. As our lands grow older and become thinner with continued cropping, the preparation of the seed bed becomes a more and more important factor in influencing the yield of corn. Where corn is grown on as extensive a scale as in the corn belt there is often a tendency to slight the seed bed preparation, but with the present price of lands in the corn belt the time is here when this factor can no longer be ignored. Conditions should be made as favorable as possible for the young plant at the very start if it is to reach its highest stage of development.

Functions of Cultivation.—The chief functions of the cultivation of corn are (1) to keep down weeds, (2) to conserve moisture, (3) to aerate the soil, (4) to increase nitrification and (5) to aid in making plant food available. Of these the eradication of weeds is the most important and under normal conditions is the chief purpose of cultivation. If the seed bed has been well prepared the best part of the cultivation is done before the corn is planted, and thereafter little stirring of the soil is necessary save that required to remove the weeds.

In dry seasons, especially early in the season while the plants are yet small and where conditions more nearly approach those of a fallow field, frequent cultivation may conserve moisture by keeping a dust mulch on the surface to check evaporation. It is not likely, however, that much moisture is saved in normal seasons by cultivation after the corn reaches the height at which it is ordinarily laid by. Much more moisture may be saved by cultivation where the plants are small than after they are large enough to protect the soil from the drying action of winds sweeping over the surface.

In the light of some recent investigations it would seem that the value of after-cultivation in conserving moisture under average conditions perhaps has been overestimated and that the increase in yield to be expected from further cultivation after that which is sufficient to control the weeds is not great. Cates and Cox* of the United States Department of Agriculture have summarized the data published by several experiment stations together with that obtained by their own investigations through a large number of co-operative experiments with farmers under a wide range of soil and climatic conditions.

In these experiments plats were cultivated in the ordinary way and the yield compared with that of other plats receiving no cultivation but on which the weeds were removed by scraping the surface with a hoe.

In the following table the results from four experiment stations are summarized covering twelve different trials:

EFFECT OF CULTIVATION ON YIELD OF CORN.

Station.	Number of trials.	Yield, bushels per acre.	
		Cultivated.	Uncultivated but weeds scraped.
New York—Geneva	1	56.8	70.5
Illinois—Urbana	7	70.6	69.1
Missouri—Columbia	2	67.0	63.8
South Carolina—Clemson College	2	62.9	62.0
Average	....	67.5	67.1

Similar experiments were conducted in co-operation with farmers all over the country, the average results of which showed that the yield of fodder on the uncultivated plots was 95 per cent of that on those receiving cultivation, while the yield of corn was 99 per cent of that of the cultivated plots. It is evident then that keeping down the weeds is the most important function of cultivation.

The frequency of cultivation is another matter concerning which there is often much difference of opinion. Fortunately, considerable experimental evidence has been accumulated in regard to this point.

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*United States Department of Agriculture, Bureau of Plant Industry, Bulletin 257.

At the Illinois Station several years ago plots were cultivated from three to five times during the season in comparison with plots cultivated about three times as much. The average results for five years were as follows:

FREQUENCY OF CULTIVATION FOR CORN.

ILLINOIS EXPERIMENT STATION. (1)

(Average 5 years.)

Amount and kind of cultivation.	Yield in bushels per acre.
Shallow, ordinary	70.3
Deep, ordinary	66.7
Shallow, frequent	72.8
Deep, frequent	64.5
Average, frequent	68.6
Average, ordinary	68.5

Similar experiments have been conducted at the New Hampshire Station with the following results:

Shallow cultivation 14 times, 80.6 bushels; shallow cultivation 5 times, 79.1 bushels.

At the Kansas Station corn was cultivated from three to seventeen times during the season for two years. The results are presented in the following table:

FREQUENCY OF CULTIVATION FOR CORN.

KANSAS EXPERIMENT STATION. (2)

(Average 2 years.)

Cultivation.	Yield in bushels per acre.
Once in 4 weeks (2 cultivations)	16.9
Once in 3 weeks, (3 cultivations)	24.0
Once in 2 weeks (4 cultivations)	25.2
Once a week (7 cultivations)	27.8
Twice a week (13 cultivations)	27.2
Three times a week (17 cultivations)	24.8

We may, therefore, conclude that while the plants are small and the field comparatively fallow, cultivation conserves moisture as in any fallow soil. After the plants are large enough to shade the ground considerably and to protect it from winds sweeping over its surface and when they have developed a mass of surface roots to intercept capillary moisture from below, the principal object of cultivation is to destroy weeds. There is no evidence to indicate that more frequent cultivation than that which is necessary to control weeds is profitable.

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(1) Illinois Experiment Station, Bulletin 131, 1894.

(2) Kansas Experiment Station, Bulletin 45, 1893.

In conclusion, I would emphasize the fact that the yield of the corn crop is influenced by a diversity of factors. The careful farmer will make it his business to know in so far as possible what these factors are and how they act. He will then endeavor to regulate and systematize those directly in his control in such a way that they will act harmoniously to promote the development of this important crop.

PREPARING LAND FOR WHEAT.

(L. E. Call, professor of agronomy, Kansas State Agricultural College. Address delivered during Missouri Farmers' Week.)

The preparation of the seed bed is the most important factor in growing a crop of wheat. The condition of the ground at the time of planting usually determines the success obtained with the crop. Experience has taught us that an ideal seed bed is a firm, well-compacted soil. To prepare a firm seed bed from a soil that has been previously worked deep requires time. It is not accomplished in a day, a week or a month; it is the result of many days of settling, some good packing rains and frequent cultivation with the disk, Acme or spike-tooth harrow. Thus the time necessary for the preparation of the ideal seed bed is at hand only when the preparation of the ground is started early. The advantages of a firm seed bed that results from early plowing and frequent subsequent cultivation cannot be overestimated. A firm seed bed is absolutely necessary if the subsoil water is to be utilized by the young wheat plant. On loose, poorly packed soil there is such poor connection between the soil particles that moisture cannot be raised by capillary attraction from the subsoil. Under this condition the soil may be well supplied with subsoil moisture and the wheat fail to germinate because of the loose condition of the soil, which prevents the rise of water.

A firm seed bed is only one of a number of benefits that result from the early preparation of the soil. Moisture is conserved and plant food is made available in this way. The conservation of moisture results from the killing of the weeds that sap the ground of water and from a looser condition of the soil that more readily absorbs rain. The cultivation of the soil after packing rains form an earth mulch which prevents the loss of moisture by evaporation. In the drier climates perhaps the greatest benefit resulting from an early preparation of the soil is the conservation of moisture. Where moisture is more plentiful the greatest benefit results from the liberation of the plant food, and especially of the plant food nitrogen. Plants use nitrogen in the form of nitrates. Nitrates are formed as the result of bacterial action. The bacteria that form nitrates work only in well-aired soils. Thus the better the soil is aired the more nitrates are formed. It is evident, therefore, that the greatest development of nitrates takes place in soils plowed the earliest and given the most frequent cultivation throughout the summer. Thus the firmest seed bed, the most plant food, the greatest accumulation of moisture and usually the largest yield results from the earliest preparation of the soil.

Experiments were started at the Kansas Experiment Station several years ago to determine the value of different methods of preparing land for wheat. This work has been conducted during the last three years upon upland soil very low in fertility, land that had been previously cropped for many years to small grain, corn and sorghums, without the addition of manure or green manuring crops. The field was in wheat in 1910. A portion of this field was divided into plots in 1911, each plot receiving different seed-bed treatment. Eleven methods in all were used. In 1912 and 1913 the same methods of treatment were repeated on each of the eleven plots. Another portion of the field was planted to corn in 1911, to oats in 1912 and to wheat in 1913. Five different methods of preparing the seed bed were used upon this area for the 1913 wheat crop. The wheat was seeded upon all plots October 2nd. Bearded Fife wheat was sown with a disk drill at the rate of one and one-fourth bushels per acre. The following table shows the results of the various methods of treatment for the season of 1913 and an average of the three seasons, 1911 to 1913.

METHODS OF PREPARING LAND FOR WHEAT.

(Cropped to wheat continuously.)

Method of preparation.	Season of 1913.				Average of three years, 1911-'13.		
	Yield per acre, bushels.	Cost per acre for preparation.	Value of crop at 80c per bushel.	Value of crop less cost of preparation.	Yield per acre, bushels.	Cost per acre for preparation.	Value of crop less cost of preparation
Disked, not plowed	9.39	$2.00	$7.51	$5.51	6.63	$2.07	$3.64
Plowed September 15th, 3 inches deep	16.39	2.40	13.11	10.71	13.24	2.83	8.35
Plowed September 15th, 7 inches deep	17.55	2.90	14.04	11.14	14.15	3.33	8.60
Plowed August 15th, 7 inches deep	32.83	3.55	26.26	22.71	22.19	4.00	16.34
Plowed August 15th, 7 inches deep; not worked until Sept. 15th	28.80	2.90	23.04	20.14	20.48	3.33	13.65
Plowed July 15th, 3 inches deep	21.57	4.35	17.25	12.90	20.77	4.85	12.25
Plowed July 15th, 7 inches deep	34.95	4.85	27.96	23.11	27.11	5.35	16.87
Double-disked July 15th, plowed September 15th	27.53	3.60	22.02	18.42	19.71	3.93	12.37
Double-disked July 15th, plowed Aug. 15th, 7 inches deep	29.84	4.75	23.87	19.12	23.40	4.93	14.30
Listed July 15th, 5 inches deep, ridges split August 15th	29.40	3.70	23.52	19.82	22.90	3.92	14.73
Listed July 15th, 5 inches deep, worked down	27.81	3.35	22.24	18.89	22.77	4.05	14.53

WHEAT AFTER OATS IN ROTATION WITH CORN AND OATS.

Plowed July 15th, 3 inches deep	44.08	4.35	35.26	30.91
Plowed July 15th, 7 inches deep	44.66	4.85	35.73	30.88
Plowed July 15th, 12 inches deep	44.00	8.10	35.20	27.10
Plowed August 15th, 7 inches deep	41.16	3.55	32.92	29.37
Plowed September 15th, 3 inches deep	25.50	2.40	20.40	18.00

The plot disked and not plowed was double-disked twice just before seeding. The other plots were treated as indicated in the table. An effort was made to prepare the best seed bed possible with each method employed. Thus: All plots were harrowed immediately after they were plowed, except where otherwise indicated, and were worked thereafter as was necessary to maintain a soil mulch and to prepare a good seed bed. The table gives, in addition to yield per acre and method of treatment, the cost per acre for preparation, which was figured as follows:

$5.00	per acre for plowing with Spalding deep tillage plow.
1.25	per acre for 3-inch plowing.
1.75	per acre for 7-inch plowing.
.75	per acre for 5-inch listing.
.40	per acre for disking.
.35	per acre for Acme harrowing.
.25	per acre for harrowing.
.40	per acre for seeding.

The cost of preparation includes all expenses involved in preparing the ground and seeding the wheat. The value of the crop was figured at the market price of wheat at the time the wheat was thrashed. The market price at the time of thrashing this season (1913) was eighty cents per bushel.

DISKING.

Two plots were double-disked July 15th. One of these was plowed August 15th and the other September 15th. The plot plowed August 15th produced 29.84 bushels of wheat per acre. The plot plowed September 15th produced 27.53 bushels per acre. This is a difference of 2.31 bushels per acre in favor of the earlier date of plowing. For the best results, ground that is double-disked early in the summer should be plowed within a month after disking. If the plowing is postponed later than this much of the moisture saved by the earlier disking will be lost by the rank growth of weeds and volunteer wheat that grow all the more vigorously after the ground has been disked. Also, if the plowing is not done before the middle of September there is not sufficient time to prepare a firm seed bed before time for planting.

When we compare the plots that were disked early with the plots plowed at the same date but not previously disked, we find for the August plowing that the plot not disked produced three bushels more wheat per acre this season than the disked plot, but for an average of three years the early disking has increased the yield over a bushel an acre. The plot double-disked in July and plowed in September produced 27.53 bushels of wheat per acre this season, while the plot plowed on the same date but not double-disked produced 16.39 bushels per acre. This is an increase of 11.14 bushels per acre in favor of double-disking and an increased return of $7.71 per acre after paying for the disking. There is absolutely no doubt of the benefit resulting from double-disking ground early in the season when it can not be plowed or listed. Double-disking early in the summer not only insures an increased yield of wheat, but holds moisture in the ground, so that the plowing can be done later with greater ease and at less expense.

Disking is a desirable method of preparing the seed bed when used in connection with plowing, but is a poor method when used alone. In this trial the plot that has not been plowed for three years, but where the seed bed has been prepared by disking just before planting, produced only 9.39 bushels of wheat, and the average yield for the past three years has been but 6.63 bushels per acre. This is not a sufficient yield to pay for the cost of production. On lighter types of soil in the central and western part of the State this method has produced satisfactory crops of wheat for a single season, but when the method is followed year after year it can not be expected to equal plowing or any other good method of preparation.

LISTING.

Two methods of listing were tried in this test. One plot was listed July 15th, leveled with a lister cultivator about August 1st, and worked as necessary thereafter to maintain a soil mulch to prevent the growth of weeds. The other plot was listed on the same date, left one month without being worked, then the ridges split with the lister. About two weeks later the land was leveled with a lister cultivator and thereafter worked as was considered necessary. The plot single-listed produced 27.81 bushels per acre while the plot double-listed made 29.40 bushels per acre, a difference of 1.61 bushels in favor of double-listing. For the first two seasons of the test single-listing produced slightly more wheat than double-listing. This year, however, the reverse is true. It will undoubtedly be found, as the test is continued, that the plot double-listed will produce more grain than the single-listed plot. When single-listing is practiced, especially when the listing is done each year in the same direction, there is a tendency for the lister to follow the old lister track, leaving a portion of the soil unturned from year to year.

Listing is a good method of preparing a seed bed for wheat, providing the work is properly done. Ground can be listed more rapidly than it can be plowed; thus where a large acreage of ground is to be prepared it can be prepared earlier in the season by listing than by plowing. It is advisable, however, when listing is the general practice followed, to plow the land occasionally. The plow pulverizes and inverts the soil more thoroughly than the lister, and thereby puts it into better physical condition.

PLOWING.

On the field continuously cropped to wheat ground was plowed July 15th, August 15th and September 15th. Two plots were plowed in July, one seven inches deep and the other three inches deep. Three plots were plowed in August, all seven inches deep. One plot had been disked in July, and of the other two one was worked as thought desirable throughout the summer, while the other was left without working until September 15th, when it was treated in the same manner as the September-plowed plots. Three plots were plowed in September, one seven inches deep, another three inches deep and the third, which had been double-disked in July, was plowed three inches deep. The three plots were worked alike after they were plowed.

Of these methods of preparation the plot plowed deep in July produced the largest yield, 34.95 bushels per acre, and as an average of the three-year trial, has produced 4.71 bushels more wheat than any other method employed. The plot plowed three inches deep on this date for the last three years produced 21.57 bushels per acre, or 13.38 bushels less than the seven-inch plowing.

Of the plots plowed in August, the one which was worked during the first month after plowing produced 32.83 bushels per acre, while the other, which was not worked, produced 28.80 bushels, a difference of 4.03 bushels per acre in favor of working the ground the first month after plowing. This increase in yield was secured at an additional cost of sixty-five cents.

Of the three plots plowed in September, the plot disked July 15th gave the largest yield, 27.53 bushels per acre. The plot plowed deep at this date produced 17.55 bushels per acre, while the plot plowed shallow made 16.39 bushels.

These tests show that 2.12 bushels less wheat were obtained for August than for July plowing, and that September plowing produced 15.23 bushels of wheat per acre less than August plowing. Of the two plots receiving identically the same amount of work, one plowed in August and the other in September, the August-plowed plot made 11.25 bushels per acre more than the September-plowed plot. What greater evidence is needed of the benefit resulting from early plowing?

ROTATING WHEAT WITH OTHER CROPS.

Wheat was grown this season (1913) on ground that was in oats in 1912 and corn in 1911. The ground was plowed seven inches deep in the fall of 1910 for corn and six inches deep in the fall of 1911 for oats. Five plots were prepared upon this field for wheat. Three of these were plowed in July, at depths of three inches, seven inches and twelve inches, respectively. One was plowed on August 15th seven inches deep and the other was plowed September 15th three inches deep. The plot plowed twelve inches deep in July was plowed with the Spalding deep tillage implement. There was practically no difference in the yield of the plots plowed at different depths in July; the three-inch plowing produced 44.08 bushels per acre, the seven-inch plowing produced 44.66 bushels per acre and the twelve-inch plowing produced 44 bushels per acre. The cost of preparing the land, however, was $8.10 per acre for the twelve-inch plowing, $4.85 for the seven-inch plowing and $4.35 for the three-inch plowing, leaving a return of $27.10 after paying for the cost of preparation for the twelve-inch plowing, $30.88 for the seven-inch plowing and $30.91 for the three-inch plowing.

It appears that little or no benefit results from deep plowing for wheat when the ground is rotated with other crops and when it received a thorough and deep plowing at least once in three years. The benefit of deep plowing as compared with shallow plowing, when each method is practiced continuously, has already been indicated and shows an increased yield for deep plowing of 13.5 bushels per acre. The plot plowed August 15th produced 3.53 bushels per acre less wheat than the July-plowed plot, while the September-plowed plot produced 19.16 bushels per acre less than the plot plowed seven inches deep in July. These results again emphasize the benefits secured from early plowing.

The results obtained from wheat grown in rotation, compared with that grown continuously, are shown in the following table:

WHEAT GROWN IN ROTATION VS. WHEAT GROWN CONTINUOUSLY.
YIELD OF WHEAT PER ACRE.

Time and depth of plowing.	Wheat in rotation, bushels.	Wheat continuously, bushels.	Difference, bushels.
July 15th, 7 inches deep	44.66	34.95	9.71
July 15th, 3 inches deep	44.08	21.57	22.51
August 15th, 7 inches deep	41.16	32.83	8.33
September 15th, 3 inches deep	25.50	16.39	9.11

Wheat grown in rotation produced 22.51 bushels per acre more on shallow July-plowed ground, 9.71 bushels per acre more on deep July-plowed ground, 8.33 bushels per acre more on August-plowed ground and 9.11 bushels per acre more on September-plowed ground than when continuously cropped.

It will be seen from these tests that the largest yields of wheat and the largest profits result from those methods of preparation by which the soil is worked early in the season and kept cultivated until the wheat is sown and when the wheat is grown in rotation with other crops. This corroborates our observations and the results of past trials. There may be an exception to very early plowing on fertile soils in wet seasons. Upon soils rich in plant food and well supplied with moisture very early cultivation and continuous working of the seed bed may liberate plant food in such large amounts that the wheat lodges, resulting in a decreased yield. Under these conditions dimeum early plowing is advisable. In dry seasons and on soil of average fertility the best yields will be produced by starting the preparation of the seed bed as early in the season as possible.

Missouri State Board of Horticulture.

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REPORT OF MEETING.

(John Bland, secretary.)

The fruit growers' meeting held in Columbia during Farmers' Week, January 12 to 16, 1914, was devoted to discussions of problems relating to co-operative marketing. Thirty-eight representatives of co-operative organizations were in attendance, and the work done by them during the week is an unique accomplishment horticulturally. In reporting the proceedings of this meeting it will be necessary to divide it into two parts: First, an interstate bureau for the exchange of crop and market information was established; second, records of the history of seven notably successful co-operative associations were obtained, which, together with the full oral discussions conducted by the great number of "co-operators" in attendance, furnishes a great amount of forceful argument for co-operative selling of fruits—more, perhaps, than has been heretofore brought out in a fruit growers' meeting.

FIRST PART OF MEETING.

After two days' discussions the following resolutions creating a bureau for the exchange of crop and market information were adopted:

First, we recommend that John Bland act as secretary for a central information bureau on fruit conditions and production and market conditions.

Second, we recommend that the secretaries or managers of all fruit organizations within this territory report to the above named secretary monthly all information pertaining to crop conditions, output and market in their particular territory, and that the secretary of the bureau of information thus formed shall compile such reports and furnish the same to all corresponding secretaries.

Third, in order that the work of systematizing crop and market reports and marketing the product of our orchards and fields shall be done in an effective and businesslike manner, we urge that the growers in the territory embraced in the territory above named shall be organized as speedily as possible into strong and compact community associations, and then that these community or local associations shall be affiliated into a central information and fruit exchange.

Fourth, that the secretary of this bureau shall call an annual meeting, at such times as in his judgment is best, of all the corresponding secretaries and such other fruit growers as in his judgment would promote the interests here represented.

This resolution was adopted by representatives of thirty-eight co-operative associations, some of which were central selling agencies for federations of local associations, making in all about seventy-five local associations represented.

Since this meeting circular letters have been sent to the larger associations of growers of perishable horticultural products announcing the result of the Columbia meeting and urging attention toward the necessity of extending the organization as rapidly as possible. As a result of this publicity we now have about five hundred local organizations that have agreed to affiliate with the Interstate Bureau, and as far as crop reports are concerned, these organizations effectively cover all of the United States.

The work of this bureau will, at first, be simply that of supplying organizations of growers of perishables with reliable crop and market reports. The information exchanged through this bureau will be accepted by and transferred to only those organizations that are purely co-operative in principle, and not to any organization that is operated for profits based on capital stock. This includes, of course, individual growers.

It is hopefully expected that this service will stimulate the organization of co-operative associations. The marvelous results of successful co-operation are now familiar to us all, and it is the opinion of well-informed men that no one will stand in the way of co-operative effort who is well informed and at the same time truly American in his ideals.

Some of the possibilities of the future development of an interstate bureau, such as was created at the Columbia meeting, may be found in extract from the following letter sent to co-operative organizations:

This general organization should first take the form of a national conference, or rather a convention where representatives of different co-operative associations will meet and discuss problems in marketing, legislation, etc. This convention would no doubt ultimately grow into a strong national federation of co-operative associations. Although the organization of this federation may be years in the future, it will pay us to bear in mind the ultimate importance of such an organization, so that we will be furnished with adequate incentive in pushing this convention idea to a successful termination. Let us consider, then, some of the possibilities of a national federation of co-operative associations. A company is now building in Chicago three warehouses or wholesale produce markets. These markets are located in the best position with respect to transportation facilities and accessibility to Chicago consumers through grocery stores, etc. This company will lease storage space to any commission firm of the right character. Now suppose we have a federation of associations, and this federation should establish agencies in Chicago, and these agencies could supply perishable products directly from the co-operative associations to the grocery stores or to the consumers, as there are even now enough co-operative associations handling all kinds of perishable products. It would be only a short time before association products would have a fixed and standard value on the Chicago market, because of the fact that all association products are of uniform grade. The cost of distribution through these agencies, that is, the agents' salaries, storage, rental, etc., could be paid by each association in proportion to the amount of its produce handled by the agency.

It is not my intention to imply that a national federation of associations could take such a step as this at the present time. It is only one of the possibilities of the future development of our idea of a national convention of co-operative associations.

Another possibility that is suggested by the development of such a federation of co-operative associations is this: If we should be able to supply an agency such as the one in Chicago with standard association products, we would be able in a very short time to get command of the situation in that market. Local hucksters would find that the market for a great amount of their products was being taken away from them. They would be gradually forced out of the field. Now, it would be the plan of this association that any organization would be included in it that was purely co-operative in principle. It would only be necessary then for these truck growers to unite under a co-operative charter to become a member of our association.

I believe that even now there is a large enough amount of perishable products handled by associations to command the market situation in several cities. When this national federation becomes effective the organization of local co-operative associations—such as you state in your letter are absolutely essential to the success of the central association—would be brought about in rapid order. There would be a great number of organizations effected in a short time, simply to take advantage of our central organization.

As soon as the portion of perishable products marketed through this federation of associations were large enough it would be practicable to place these agencies in each of the markets of this country. It is possible that some of the smaller towns would have to be included in a district with a larger town where an association agency was situated.

If the federation were developed to this extent we would have complete and perfect distribution of perishable food products. All of the central markets would be well in hand, and all the consumers except the farmers or the producers themselves would be reached by these central agencies. As for the farmers or producers themselves, it would be a simple matter for each association to act as the agent for the other associations in supplying them with perishable food that they did not themselves produce. Extensive argument intended to demonstrate the difference in efficiency in this proposed plan of distribution and the one now in operation was offered, and in conclusion an extract from a letter from a prominent Chicago business man was used. This extract is not aimed at the better class of commission men, but serves to point out some of the evils of the present, the "disorganized" system.

I have read with much interest your proposed organization plan and it accords with what I have been working on for several years, and I am confident that the wholesale market system as planned will meet with the heartiest co-operation of producers and shippers of fruits and produce. I have given careful attention to these plans, including the workings of the middleman, and our system will take him by the bootstraps, lift him from the mire and place him on solid ground if he will do the fair thing; otherwise it will exterminate him. The greatest fraud in the wholesale business is the dishonest commission merchant, and every large market has many of these smooth letter-writing, sharp-tongued gentlemen. They beg and urge you to give them one trial shipment of fifty or a hundred barrels of apples, one hundred birds, or a car of potatoes; then when your goods land you are told that you did not pack or load right; you failed to sort right; you may get a hundred complaints—and you may get a statement. If you show fight it may show that you still owe $2.50. Now this does not apply to many reliable houses or any honorable dealer, but it does apply to many who are doing this very thing and have done so for many years, and I blame the reliable houses for associating with these kind of fellows when they know how they operate. If I lived in the same block with a thief I would not only refuse to neighbor with him, but I would tell others to watch their hen coops. Then there comes a big, three-ringed swindling outrage called the cold storage house, which is for the protection of the big produce dealers only. If you ship a car of peaches, grapes or perishables of any kind and you do not want it sold at once you will either get soaked good and hard by the cold storage company or your stuff will be piled in the old dirty, rat-eaten basement of a South Water street commission house and allowed to spoil, or until you wire to sell for what you can get. This is all in line with the commission business.

In addition to the many local associations, favorable replies have been received from the largest five fruit growers' exchanges of this country. Extracts from some of these letters follow:

H. C. Fletcher, manager Grand Junction Fruit Growers' Association, Grand Junction, Colo. (apples, peaches, etc.): "My suggestion would be that you do not attempt to market any produce of the several associations and shippers at the present time, but that a system be inaugurated whereby reports could be received and distributed. It would be of great assistance to all distributors in handling the sales of their fruits."

J. A. Anderson, secretary Brownsville Fruit Growers' Association, Brownsville, Neb. (strawberries, grapes, etc.): "I have your letter and I will say that I am pleased with Mr. Kirkpatrick's idea of banding all sales managers together in an organization."

J. J. Nagle, general manager California Fruit Exchange, Sacramento, Cal. (citrus fruits): "My idea would be to create an office to act as a central point for receiving and distributing information from each and every fruit growing district in the United States, said office to be located either in Omaha or Chicago, and that reliable sources of information be selected in each fruit district in the country and become a part of this organization to furnish crop and market information, including movements of fruits and vegetables to this central bureau. For example, this office would be willing to affiliate with and become a part of this central organization and furnish all requisite and valuable information regarding the fruit business in this State by letter, or, if the change were acute and affected in any way market conditions, the information could be forwarded by wire. We in turn would expect similar information from every other district where our fruit came into competition. We believe the Georgia Fruit Exchange and other similar organizations would be glad to join, as the benefits accruing from such information would be invaluable to the interests of all engaged in a like industry. Naturally, financial support would have to be contributed, but not to any great extent as far as I can see at this time, as the only expenses would be the maintenance of an office, with a manager and two assistants, and, of course, the necessary stationery with which to distribute this information throughout the country, and if possible, a fund to take care of any telegraphic or long-distance calls that the bureau might be called upon to use in the performance of its work."

J. H. Christian, secretary and treasurer Neosho Fruit Growers' and Shippers' Association, Neosho, Mo. (strawberries): "Replying to yours of the 7th regarding the recommendation submitted by the committee appointed by the Interstate Conference of Fruit Growers, I will say that I heartily agree with them. . . . . It will give the growers over the territory embraced confidence in the organization. This is a move in the right direction, and I have great confidence in the success of such an organization."

L. M. Garrett, secretary Farmington Fruit Growers' Association, Farmington, N. Mex. (apples): "There is need of more system in the marketing of produce, and the move that will correct the present system is the right move. We need more direct knowledge and a closer touch with the markets, etc."

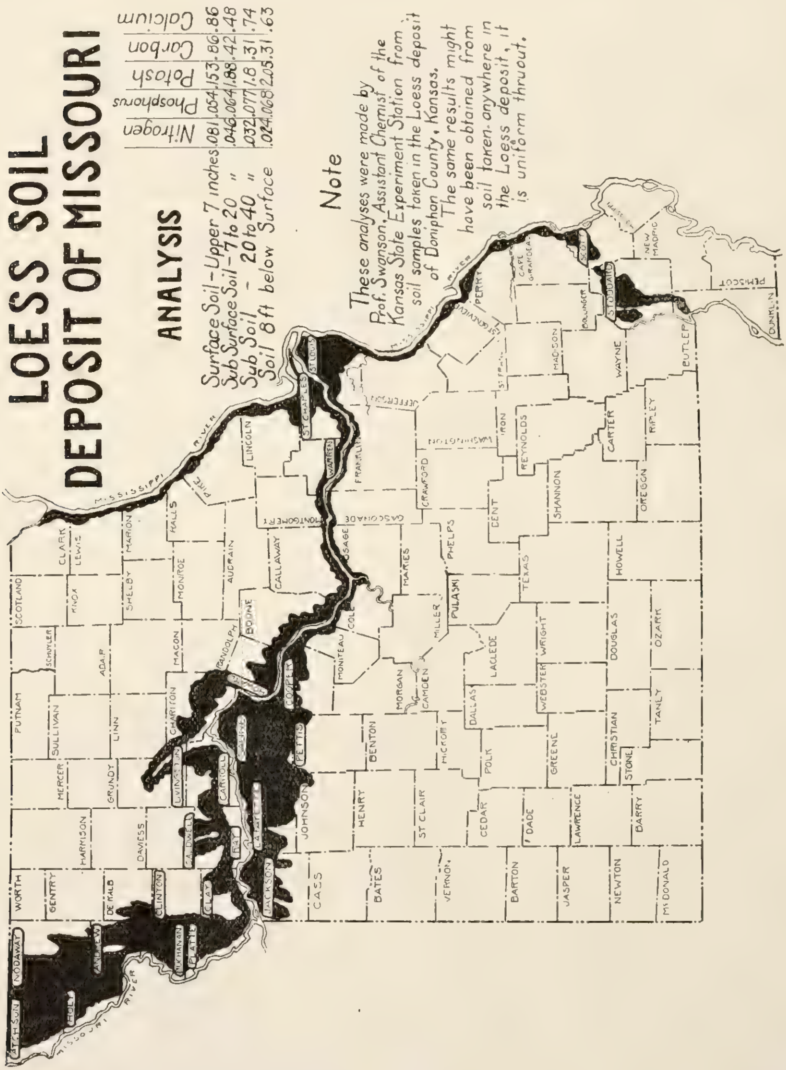
N. P. Westcott, Eastern Shore of Virginia Produce Exchange, Olney, Va. (garden crops and potatoes): "We would be very glad to co-operate with you in exchanging information to the fullest extent that might be advantageous for either your section or ours, and would be willing to adopt any practical plan that might be worked out for that purpose."

During the season 1914 the Interstate Bureau will attempt nothing further than the exchange of information as to crop and market conditions, but during the winter of 1914-1915 a convention of co-operative associations will be called, and at this convention we may expect to see the beginning of a new era as far as producers and consumers of perishable products are concerned.

SECOND PART OF MEETING.

The seventh annual report of the Board of Horticulture contains the complete report of this meeting, and in it will be found the reports from several co-operative fruit growers' associations. Only one of these can be published here.

Nearly all of the associations represented here are from the Missouri river "Loess" district. This district produced in 1912 more apples than any other apple district in the world, and this district supports at the present time as prosperous and well-to-do fruit growing communities as can be found. At Wathena, Kan., just across the Missouri river from St. Joseph, Mo., $500,000 in fruits are shipped yearly. This little town of Wathena is a "fruit growing town." The Wathena lumber yard, the elevator, the general store and the county insurance company are owned by the Wathena Fruit Growers' Associa-


MISSOURI RIVER
MISSISSIPPI RIVER
ATCHISON
NODAWAY
WORTH
GENTRY
HOLT
ANDREW
DE KALB
HARRISON
MERCER
PUTNAM
SULLIVAN
SCHUYLER
SCOTLAND
CLARK
KNOX
LEWIS
ADAIR
GRUNDY
LINN
SHELBY
MARION
DAVIESS
CLINTON
BUCHANAN
PLATTE
CALDWELL
LIVINGSTON
CHARITON
MACON
MONROE
RALLS
PIKE
CLAY
RAY
CARROLL
SALINE
RANDOLPH
AUDRAIN
HOWARD
BOONE
LINCOLN
JACKSON
LAFAYETTE
COOPER
CALLAWAY
MONTGOMERY
ST CHARLES
ST LOUIS
WARREN
CASS
JOHNSON
PETTIS
MONITEAU
COLE
OSAGE
GASCONADE
FRANKLIN
JEFFERSON
BATES
HENRY
BENTON
MORGAN
MARIES
CAMDEN
MILLER
CRAWFORD
ST CLAIR
HICKORY
PULASKI
PHELPS
WASHINGTON
VERNON
CEDAR
POLK
DALLAS
LACLEDE
DENT
IRON
ST FRANCOIS
STE GENEVIEVE
PERRY
BARTON
DADE
TEXAS
REYNOLDS
CAPE GIRARDEAU
GREENE
WEBSTER
WRIGHT
SHANNON
MADISON
JASPER
LAWRENCE
BOLLINGER
SCOTT
NEWTON
CHRISTIAN
DOUGLAS
HOWELL
CARTER
WAYNE
STODDARD
STONE
BARRY
TANEY
OZARK
OREGON
RIPLEY
NEW MADRID
MISSISSIPPI
McDONALD
BUTLER
PEMISCOT
DUNKLIN

LOESS SOIL DEPOSIT OF MISSOURI

ANALYSIS

	Nitrogen	Phosphorus	Potash	Carbon	Calcium
Surface Soil—Upper 7 inches	.081	.054	.153	.86	.86
Sub Surface Soil—7 to 20 "	.046	.064	1.88	.42	.48
Sub Soil — 20 to 40 "	.032	.077	1.8	.31	.74
Soil 8 ft below Surface	.024	.068	2.05	.31	.63

Note

These analyses were made by Prof. Swanson, Assistant Chemist of the Kansas State Experiment Station from soil samples taken in the Loess deposit of Doniphan County, Kansas. The same results might have been obtained from soil taken anywhere in the Loess deposit, it is uniform thruout.

tion. The name of the local bank is the Wathena Fruit Growers' Bank. This town is an inspiration to the man who likes to see the small owner prosper. Wathena is one of the many associations in the Missouri river "Loess" fruit district.

This loess district furnishes us with an unique and highly interesting story. A description of this district will be found in the paper read by the secretary of the Board of Horticulture at the fruit growers' meeting.

Loess soil grapes.

Nine thousand four hundred dollars worth of grapes were sold from the "Loess" district in Missouri in 1912, and $179,050 worth were sold from the part of it not in Missouri. The Missouri grapes were not sold through associations. Those across the river were. Had the Missouri grapes been sold at the same price as those through the associations they would have brought $9,400 more. The difference between 1¼ cents, the average price received by growers not in associations, and 2½ cents, the average price received by association members, might easily represent the difference between profit and loss—between prosperity and the other things, good roads and bad roads, the best schools and those not so good, and many other things of fundamental concern to the agriculturist.

As stated, all of the papers read by representatives of the various associations in the "Loess" district will not be published here. The paper by the secretary of the Board of Horticulture and two papers by association representatives will fill the available space.

REPORT OF CO-OPERATIVE MEETING.

This meeting began Tuesday, January 13th, with Dr. W. L. Howard in the chair. In welcoming the fruit growers Dr. Howard said, "I do not recall any time when so many successful business men in the horticultural line have been gathered together in one conference. This is truly a remarkable work that is just beginning here this evening. The State Board of Horticulture has called this meeting as the first step toward the organization of the people of Missouri, in order that they might accomplish much that Colonel Dalton outlined to you yesterday."

An appropriate address of welcome was made by Colonel Richard Dalton. John Bland, secretary of the Board, was then called upon and spoke as follows:

REMARKS BY MR. BLAND.

We are at this meeting, first, to discuss the various things that contribute to the success or failure of co-operative fruit growers' associations and, second, to form a temporary or permanent bureau for the exchange of crop and market information from districts represented. We have in attendance about thirty-five representatives of associations, a large portion of whom are from the famous Missouri river fruit district. Our great need of associations in Missouri lies in the fruit district of the Missouri valley, rather than in the Ozarks, where there are now a great number of effective associations. Our problem at this meeting is one then that involves Missouri river valley growers primarily, and we are glad to have here gentlemen whose experience in this same district fits you to be of greatest help to us in Missouri.

In the land of the loess soil. View of vineyard and hills.

Before going into the explanation of what is proposed to be done, I want to call your attention to the Missouri river fruit district, the district producing more apples at the present time than any other district in the world. That is, as compared to districts that are "units" of territory.

Who knows what this district is? Few people indeed. Why is this? Simply for the reason that it has lost its identity by being cut into four pieces—quartered, as it were—by the state lines of Iowa, Nebraska, Kansas and Missouri; and its apple production, instead of being known as that of the Missouri river district, is known to the world only as the apple production of the great apple states of Iowa, Nebraska, Kansas and Missouri. Why, do you know that three-fourths of the apples raised in these four states are raised in the little district that stretches along the Missouri river from Omaha to Kansas City, sometimes twenty, never more than fifty miles in width. That is astounding news to most of us. It came to me as a revelation when the figures of the actual apple production of Missouri showed that eight-tenths of the apples produced in Missouri are produced in this little strip of territory along the Missouri river. Two counties in Northwest Missouri produced in 1912 more apples than all the State of Oregon, and one county just across the line in Kansas marketed more than $500,000 in fruit.

Do you ask why this strip of territory is distinguished from all the lands of these states as the great apple producing district? Here we face as interesting a story as horticulture has to offer.

There are two great divisions of soils in the world: One comprises all of those that have been produced either entirely or in part by weathering or chemical bleaching; the other is the soil that has been produced from mechanical grinding up of rock into particles of microscopic size. One kind of soil has been produced by chemical and mechanical action; the other has been produced by mechanical action only. There is but one soil in this last group, and that is the true loess soil. This soil may be said to be to all other soils as gold is to all other

The best of the world's fruit soils—the loess soils of the Missouri river hills.

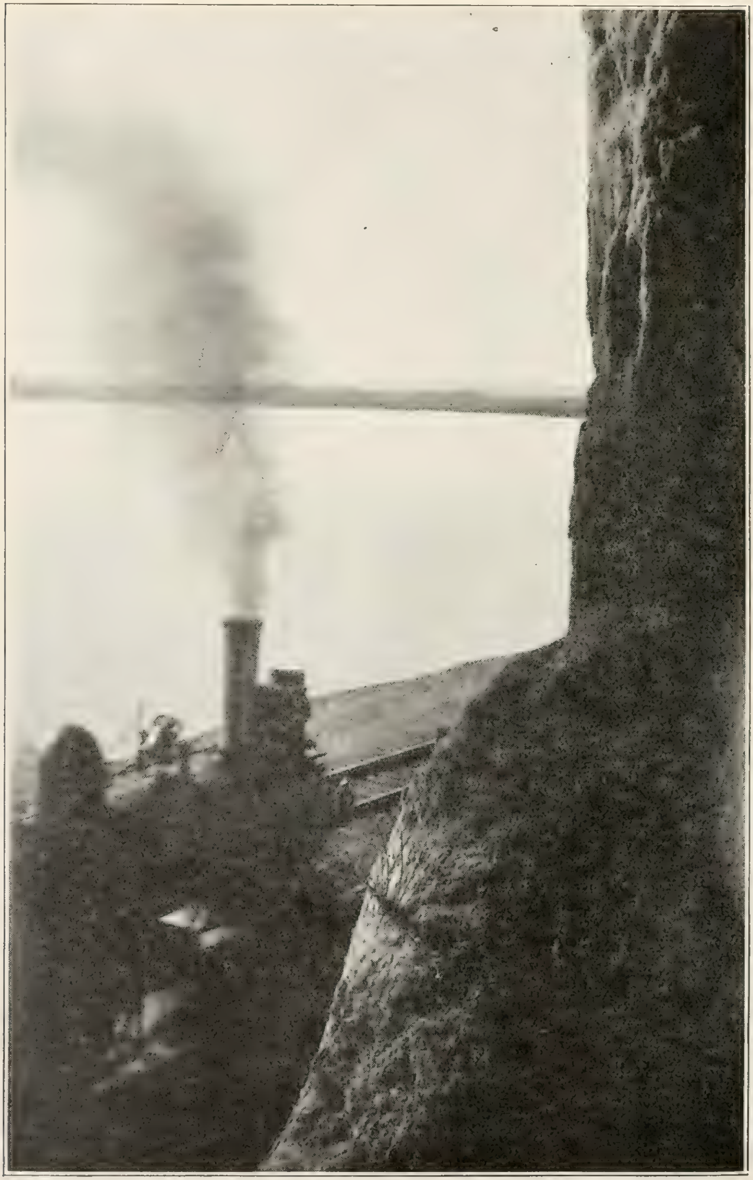
metal. It is the rarest of the useful soils and is the best. Prof. M. F. Miller, chief of the agronomy department, University of Missouri, has said that this soil is, in his opinion, the best of the world's agricultural soils.

This soil is found in only three places in the world: First, a small deposit near the river Rhine in Germany; second, a much larger deposit extending along the Missouri river two to thirty miles in width from Omaha to St. Louis, and along the Mississippi a short distance above and below St. Louis; and third, deposit in Northern China. These unique soil deposits are the result of glacial action, and are believed to have been formed by winds that prevailed during the time of arid climate that followed the glacial period.

This soil is the world's best fruit soil. There are soils in South Missouri, in the great Ozark fruit region, which are quite as good for some of the fruits as far as actual results are concerned, but as compared to all other soils, the extraordinary physical structure of the loess soil, allowing penetration of roots to unbelievable depths and perfect underdrainage as well as perfect moisture supply in dry weather, places this soil first as a fruit soil. As regards the plant food in this soil, Dr. J. C. Whitten, chief of the horticultural department of the University of Missouri, tells us that on his farm near the Missouri river, about eight miles from Columbia, the dirt from the bottom of his cistern, 25 feet below the surface, was used to fill in the low place in his garden, and that it produced quite as good vegetables as the surface soil, and we know what this surface soil will do. Twenty to two hundred feet deep, rich in plant food to the bottom, perfect physical structure, this soil ranks as the best fruit soil of the world and distinguishes our Missouri river valley as the heaviest producing of all apple districts. This district, then, is made distinct from the rest of our middle west fruit districts by this marvelous loess soil.

We may recognize this soil by its peculiar character which enables it to stand up in perpendicular walls where cut into. This is due to its homogeneous physical structure, which allows water to seep out between particles and yet be held together by the countless "shoulders" caused by its many "jagged" edges. Soils built by processes of erosion have not these 'jagged" edges, and only the true loess, which is simply crushed rock, will be found in perpendicular cliffs in our rainy climate. This peculiar characteristic accounts for our being able to cultivate the steepest hillsides without loss from washing and also for the fact that our Missouri river hills have remained so steep.

We are here to begin the work of establishing a chain of co-operative associations covering this district, so that later we



Not a rocky bluff, but a formation of loess soil.

may combine under a central exchange and put the Missouri river valley fruit, including tree and small fruits, up before the world under a common brand that will stand for honesty of packing, uniformity of grade, excellence in appearance and flavor far above that of our competitors, the fruit growers of the northwest coast. We now have thirteen successful associations in this district, and I am glad to say that they were all represented here. We are going to get the benefits of the experience of these men and build an enduring structure on the foundation furnished by their experience. We must have a strong federation in this valley.

Missouri river valley growers paid in 1912 forty cents per barrel more freight than did New York growers to get their apples delivered to their markets. This is the comparison of the average ton-mile cost for hauling from Missouri river points and from New York points. New York apples are the competitors of Missouri river apples. Taking twenty cents, which is one-half of that really paid by our competitors, as the average, and we see that Missouri valley growers paid $320,000 in excess freights—a third of a million dollars in one year. If we were joined together in a strong federation the funds necessary to fight this discrimination would be forthcoming. It is up to us to do all that is possible to unify our efforts as fruit growers.

The western invader—and we are not afraid of him on even footing—has taken our better markets to himself. And why? Do not let us avoid the issue—because he has furnished consumers with a product that he guaranteed to be good all the way through.

Has any district ever established and maintained a standard, dependable pack except through the agency of a co-operative marketing association? An individual has, but never a district.

W. S. Keeline of Council Bluffs, Iowa, sent his son, Frank, west in 1906 to learn western methods in packing boxed apples. Six years later, after building up a reputation among the people of Council Bluffs for his standard pack, Mr. Keeline sold boxed apples at prices uniformly fifty cents higher than western boxed apples. Council Bluffs had learned that the "W. S. Keeline" brand meant apples that tasted better. Are we afraid of the western invader? Yes, as long as we are not working together. We must establish a pack, make it cover a great quantity of fruit, and people will ask for Missouri river apples—"the apples with the taste."

We want to work up to the point where we have a common brand and then advertise that brand. We can educate the consumer to our mutual profit. No, you will not have to cut out your Ben Davis trees and plant the juicy Jonathan. There is no better apple than the Ben Davis—when it is baked. Tell the consumer that you are selling him a cooking apple. Would a certain big manufacturer be fool enough to put out his imitation of coffee in the same kind of a box with the same directions for using as he does his breakfast foods? Let's get together and educate the consumer. Who is going to advertise the apple? The man who grows it—and make every man pay for that advertising who gets the benefit of it; don't advertise the apple unless you advertise the brand that is fixed to that apple, a brand that stands for honesty of pack. We cannot advertise the apple effectively until we organize. We cannot compete with other big business concerns until we organize. We must act as a unit, and let that unit be composed of individual growers, each of whom has an equal voice in saying what that unit will do. We are done with the day of the local apple buyer, I hope.

Our Missouri valley brand will be advertised to the world and it will signify more than excellence in the one fruit, apples. Who has tasted finer small fruits than those grown in our Missouri river loess hills? Where do small fruits grow as abundantly? Where is there a more prosperous, live, up-to-date fruit growing community than the one just across the Missouri river—I refer to the Wathena, Kan., Fruit Growers' Association. Why should our good mid-western people drink grape juice made in New York when they have the best of the world's grape soils on sale at twenty-five to sixty dollars an acre? Association communities know what can be done with grapes in Missouri river loess soil, and I want to tell you that it was an inspiration to me when I traveled through your glorious country last fall and saw mile after mile of beautiful rolling country covered with grape vineyards and berry fields. Our district is coming into its own and I hope that this meeting may hasten the day.

I have talked too long. Just a brief outline of the second purpose of the meeting, the organization of an interstate bureau. Last summer our office made quite an effort to supply Missouri

Hauling grapes to the warehouse of the Co-operative Selling Association. Florence Fruit Growers' Association.

growers with reliable crop report information. On all hands, in the far eastern and far western districts of the United States, the difficulty of securing competent information was encountered. Plans were suggested for an interstate organization to establish a system for the exchange of crop report information, and that is the second purpose of this meeting.

REMARKS BY J. A. AULABAUGH.

In introducing the speaker the chairman said, "Over in Council Bluffs, Iowa, they have successfully grown apples and fruits of different kinds, and the men who have been associated with the organization up there for over 21 years are ready to give us some definite figures. We are going to call upon a man to tell us what he has been able to do growing fruit and what assistance the organization there has been to him as an individual. We will now hear from Mr. J. A. Aulabaugh, a director in the Council Bluffs Grape Growers' Association. Mr. Aulabaugh spoke as follows:

Your secretary has brought me before you to make a statement of facts regarding co-operation in the marketing of fruit. He has selected me I presume because I am a member of the Council Bluffs Grape Growers' Association, a corporation that represents a community where co-operation has been thoroughly tested and successfully practiced for 21 years. It is my pleasure, therefore, to give you such facts as will prove the value of such an organization.

Since entering upon this field of labor I have endeavored to keep an accurate account of all transactions executed on the place and at the same time keep in touch with the association. Every crop is treated as my debtor, and all work, material, etc., is charged against its individual account, and all produce sold is duly credited to each account. To me farming is a business, and I have never been able to understand why some men go on year after year without knowing whether they have made a loss or gain on their respective crops or whether the profit of one crop is not consumed by the loss on the other. It seems to me that the greatest help our rural schools could give to the farmer would be to teach the coming generation a simple and practical course of bookkeeping to meet the demand of farm business. Since co-operative associations will soon be the rule rather than the exception, the youth of today should be taught such business rules and methods as will give him self-assurance to enable him to meet business men on their own ground. Co-operation must be the outcome of education, and nothing will so quickly dispel the natural suspicion of the average man as a little practical information about business.

I have kept my books solely for my own convenience and not with any idea of publication, so I have found it impossible at so short notice to give you as detailed an account as was requested by your secretary. Instead I have taken, as an example, my oldest grape patch consisting of eleven acres, which was in rather a dilapidated condition at the time I took possession. This patch I have chosen in order to show you the possibilities of the grape interest during a period of ten years. I have made a summary of the original eleven acres of grapes and to simplify it have taken the average of one acre.

The first year the average crop was 306 baskets for ten acres; the tenth year the average crop was 1,624 baskets for ten acres. The greatest number to a single acre was 2,232 and the least number was 158 baskets. Following is the average of the eleven-acre patch for a period of ten years reduced to one acre per annum: Receipts—829 eight-pound baskets sold at 17 2-9 cents, $142.77; disbursements—renewal of posts and setting, $1.60; pruning, $4.60; raking out brush, $11.44; twine, $1.27; tieing grapes, $4.08; cultivating, $2.25; hoeing, $3.69; 829 empty baskets at $22.50 per thousand, $18.65; picking, $12.43; delivering, $3.31; extra labor, $3.00; commission less rebate, $10.99; icing (net), $2.07. Total, $69.41. Average net profit, $73.36.

For the last five years the average was better than for the first five years. This does not include interest on the investment, for the reason that land varies so much in value in different sections.

I have also grown diversified crops of fruit during this period, but can only generalize on them in my statement. I have grown some food crops for my own use, but more with the idea of renovating and renewing the old plantation. There are forty acres in the place, about 28 of which are in fruit. The products were not quite all put through the association, for the reason that it did not handle several kinds of fruit, especially apples, for a number of years.

Now then I want to speak of co-operation. If there is a scarcity of fruit generally all over the country and we have a good quality of stock we can easily realize a fair price for our product without co-operation, because we will have a good demand on our local market. But we cannot do as well even then as we could with co-operation, as I will show you later. Suppose there is a large crop all over the country, what will be the result?

Let me call your attention to our two bumper crops during this ten-year period, the years of 1907 and 1912. This applies to grapes only. In 1907 we handled 262,124 baskets of grapes through the association. We realized an average of 23¾ cents per eight-pound basket, and why? Because nearly all sections were short all over the country that year, and we were long on grapes. Co-operation stepped in and enabled us to reach out and get into touch with distant markets and we sold grapes as far west as Seattle, south to San Antonio, and we even had an order from Charleston, S. C. We could not fill all our orders. This enabled us to dictate our own market instead of dumping the grapes on our local market, and at such prices as our curbstone brokers would see fit to dictate to us. In 1912 we had the largest crop ever grown in our section, and there was a very large crop generally over the country and the average ran very low—14.6 cents. Competition was heavy in all directions. We shipped 383,367 baskets through our association. Now right here at the height of the season, when we were shipping out from seven to eight cars per day, the non-co-operative growers were dumping their grapes on the Omaha and Council Bluffs markets in all kinds of receptacles—even bushel baskets—and at any price offered. I want to ask you where would the market have been if the associate members had dumped from seven to eight carloads—twenty to twenty-five thousand baskets a day—on top of the glut that was already there. I say that without co-operation 75 per cent at least of the growers of Council Bluffs and Omaha would have been driven out of business and would have depreciated the value of their land to at least 50 per cent of their present valuation.

There is one thing to which I wish to call your attention, and this is what I consider the greatest enemy to co-operation with the farmer. It is the speculator—he will exploit you. That is his business—keep him out. Don't allow speculation. Make the business strictly mutual, and let the organization be for and of the growers only. You may think you need speculator's influence, and capital—we thought so at one time, but we know better now. I will not argue further against the speculator, but let me urge you to limit your membership strictly to men who specialize in the growing of fruit, and do not allow any of your stock to be owned by outsiders; they will not further your interests, but will be more likely to sap your organization for their own gain.

Provision should also be made for taking up the membership of any man who ceases to be a producer or who refuses to sell through the association for a given period of time. Of course, he could be reinstated under certain conditions. These two protective measures should be fully covered in your articles of incorporation—not your by-laws.

In organizing an association you must interest the grower from this standpoint—"Will co-operation pay me?"

Let me state briefly how it has paid in my case, which is the strongest testimonial I can offer. Co-operation has saved me each year in equipment and upkeep $188; in extra labor, $160; in rebate on commissions, $115.75. This makes a neat total of $463.75 per year, or $4,637.50 in a period of ten years. This does not take into consideration the vast amount of personal time saved in selling all of my own products.

As to the central exchange for the Missouri river valley, I am in favor of it. Let its name be what you will, but let its principles be for the mutual good of the Missouri valley growers, and with such a foundation success will be yours so long as the old Missouri continues to roll her turbulent waters to the sea.

REMARKS BY C. D. KEELINE, COUNCIL BLUFFS, IOWA.

The subject assigned me is the "Commercial Record of the Council Bluffs Fruit Growers' Association," so I have left the history and organization of our association to Mr. Aulabaugh and Mr. W. S. Keeline, and have tried to keep as closely as possible to the statistical side.

The Council Bluffs Grape Growers' Association was founded twenty-one years ago with a membership of eighteen or twenty. At the time of organization the members owned only about 400 acres of bearing fruit divided approximately as follows: Strawberries, 35 acres; raspberries, 75 acres; plums, 15 acres; grapes, 100 acres; blackberries, 50 acres; cherries, 25 acres; currants, GB, 10 acres; apples, 115 acres. Excluding the apples, this leaves about 300 acres of fruit controlled by the association.

During the next three years all of these acreage figures except apples more than doubled and the next few years doubled again. The association had made the market secure and a large amount of small fruit was planted. The orchards were young and many acres of berries and cherries were set out between the apple trees. The acreage of berries, cherries, plums, etc., steadily increased until the maturity of our orchards and vineyards, about ten years ago.

Since the association was started the apple acreage has grown from 115 acres to about 2,500 acres. (This is acreage owned by members; Pottawattamie county has 5,364 acres of apples.) Our vineyards have increased from about 100 acres, with a production around 40,000 baskets a year, to 500 acres and an average production of about 300,000 baskets.

The average price per basket in the last 11 years is a little less than 19 (2½ cents per pound). Our average yearly price has been as high as 25 cents in 1910, 24 cents in 1907, and as low as 15 cents in 1912. I have with me our accounts in full for the last 11 years, showing the amount handled of each fruit and the prices received. I also have these figures plotted on co-ordinate paper, so that if anyone is interested they may compare them very easily with their own production and prices received.

I shall read the statements in part for 1912 and 1913. The average prices received for the various small fruits for the last seven years are as follows: Blackberries, $2.37 per crate of 24 liquid quarts; raspberries, $2.82 per crate of 24 liquid quarts; cherries, $2 per crate of 24 liquid quarts; strawberries, $2.52 per crate of 24 liquid quarts.

As I have said before, the original membership was less than 20. This season's membership was 110. The original acreage was about 115 acres of bearing fruit. The present acreage is estimated at over 1,150 acres, excluding the apples. These figures do not represent the amount of farm land owned by the members, or any fruit not yet bearing, but are an estimate on the actual bearing acreage. Since the organization of our association the population of this territory has increased 60 per cent. The total acreage of bearing fruit has increased nearly 900 per cent. The acreage of grapes has increased 500 per cent, and the acreage of small fruit increased about 50 per cent. This is a good evidence of the success of co-operation in our community, as at the time of organization our growers were even then producing more than the local market could consume and we had as a market the three cities of Omaha, South Omaha and Council Bluffs.

At the outset the association was incorporated for $1,000, divided into 100 shares of $10 each. Since then the capital stock has been increased to $35,000 at $10 per share. Each member to join pays $10, which makes him a member for life. He is now supposed to ship all his fruit through the association, and if he does not do so his dividends may be forfeited at the discretion of the board of directors.

I will now try to make the workings of the association clear by following a growers' fruit and the bookkeeping thereon through from the beginning.

A member's load of fruit is driven into the warehouse, to the cars that are being loaded. The fruit must be up to a certain standard. If it is grapes, the baskets must weigh 8 pounds; the appearance must be first class; berry boxes must be full, etc. It is inspected as it is unloaded, and as each package must bear the grower's name and address beside the stamp of the association, it is not difficult to trace back fruit of poor quality to the grower, even if it should get by the inspector at the car.

The driver is now given a receipt showing the amount of the load, also the date and car number if a car is being loaded direct. A duplicate of this receipt remains in the book, which that evening is turned in to the bookkeeper. The bookkeeper enters this into a book called the "pool book." This book has a page for each day divided into columns—a double column for each kind of fruit. In the first column is entered the grower's name, the number of packages of his fruit and later on his share of the pool for the day. The second column contains the names of the firms buying the fruit, the number of packages each took and the amount paid for it. The number of packages of fruit in the two columns must balance and the sum of the amounts paid for the fruit divided by the total number of packages is the pool on that fruit for the day. That is the average price received for one package of the fruit for the day. This is multiplied by the number of packages credited each grower and placed after his name in the first column. The cash amounts in the two columns must now balance.

Before leaving the subject of "the pool" I want to say that a grower whose fruit falls below the association standard does not share in the pool for the day, but is credited with just what his fruit may bring.

The next book is a ledger. Each grower has a page on which each day the date, the number of packages of his fruit, the price, gross sales, the commission, icing charge and net amount are put down in columns for that purpose.

A commission of ten per cent is charged against everyone, besides a small icing charge to pay for icing the cars while they are being loaded. Under this sheet is another one with the same headings and between them is a piece of carbon paper, so that a copy is made of this record. At the end of the month, if the grower draws out his money, the date and amount are written in columns provided and the duplicate torn out and given to the grower, so that he has a complete record of all his dealings with the association. The rest of the accounting is ordinary bookkeeping—a cash book, etc., and could be varied to suit the wants of the growers at any time.

The association ships the fruit of nonmembers and charges them 10 per cent commission, the same as members. Ten per cent, however, each year more than pays the expenses of handling the fruit, so that at the end of every year dividends are declared on the earnings of the association, which goes back to the members as a per cent on the fruit they have shipped during the year. Nonmembers, of course, receive no dividends.

The amount of the dividends is usually around 4 per cent, reducing the actual commission of the members to about 6 per cent. The association's gross receipts for the year 1913 were $65,542.07. Of this $8,451.15, or over one-seventh, was handled for nonmembers. This figure, however, is not a fair average showing, as in 1912 we handled $83,674 worth and in 1911 over $100,000 worth. This last amount, however, includes the Omaha fruit. In 1907 we sold over $120,000 worth of fruit.

The association rents two stalls on the Omaha market and also sells to local grocers, etc. The local sales in Council Bluffs and Omaha, however, run well under 8 per cent of the total sales, leaving 92 per cent on the general market of the country. Besides this, the association buys boxes, crates, baskets, chemicals for spraying, ink for stamping, etc., in large quantities at wholesale price and sells to members at cost plus a small handling cost. Nonmembers may also buy material, but at a slightly higher price than members. However, even at this nonmembers find the association price cheaper than the price generally charged by dealers.

A box and crate factory is run during the winter months, making up the berry boxes and crates for the coming season. A good deal of this work can be done in slack seasons by the regular fruit handlers. The earnings from this factory go into the regular funds of the association.

Two building associations have been formed among the members for the purpose of building our present office building and warehouse. A certain amount of the funds of the Growers' Association are every year placed into a sinking fund with which the stock of the building association is gradually being acquired.

I have not been able to find very much about prices received by growers outside of the association. However, grapes sold in the Council Bluffs grocery stores most of the summer at 15 cents per basket and part of the time at two for 25 cents. During this time we were getting from 16 to 20 cents, our average price for the year being about 17 cents. I can't say what the growers received for these grapes, but the grocery store must have made 4 or 5 cents, so the grower probably got about 10 cents a basket, a loss of over 60 per cent by not shipping through the association. Even this price, of course, is much higher than he would have received if there had been no association, as the shipping out of a large per cent of the crop, of course, keeps the local price up.

For several years the Omaha, and I think, the Florence, Neb., fruit growers, sold their fruit through our association. At the present time we are handling the fruit of the Missouri Valley (Iowa) Association. If the plan here is to organize a group of small associations, I think that you will find that one good manager and one bookkeeper will be able to handle the business of several associations. This plan would enable you to hire a manager by the year and so not lose a good man by laying him off in the winter. It will also enable you to pay a better salary and get a more efficient man. A good manager should be secured for $100 to $200 a month.

FURTHER EXTENSION OF CO-OPERATIVE EFFORT AMONG FRUIT GROWERS.

(R. E. Hanley, secretary and treasurer North American Fruit Exchange, Chicago, Ill.)

I was told here today that out on one hundred fourteen counties in the State of Missouri one hundred ten of those were producing apples commercially, those counties having produced in a normal season five thousand carloads. The further fact was brought out that Missouri, among the most prominent of our states in the production of apples, is probably the most backward in co-operation among the fruit growers in the matter of marketing. The secretary of horticulture, Mr. Bland, is devoting a great deal of energy and time at the present moment in an endeavor to effect greater organization among the fruit growers in this State.

I may modestly make claim to having come into contact, directly or indirectly, with every important co-operative organization of fruit growers in this country in the course of visits among forty-two states of the Union within the last three years. I am going to give you briefly a few remarks covering the experience and accomplishments of various successful co-operative organizations throughout the country, including a central selling exchange plan adopted by factors of various states.

That fruit grower who considers his marketing problem solved when he with others has formed in his home district a local co-operative shipping association may be likened unto the ostrich which presumes to conceal itself from pursuers by burying its head in the desert sands.

The organization of local fruit shipping interests is but a short step forward in the direction of that co-operative effort that has for its purpose the securing of greater net returns for products of the farm and orchard. No local shipping association can achieve much along the lines of that purpose which does not comprise a majority, if not all, of the growers of the community in which it exists and, probably more importantly, retain the unfailing, loyal support of its membership. It is vitally important that Mr. Individual Grower must attend to that.

Co-operative effort alone cannot be relied upon to secure for the association member that return for his products commensurate with his land investment, cost of material, labor and individual energy, but for that he is much dependent upon the efficient, businesslike and economical management of his shipping association.

The duty of securing to his organization that character of direction and conduct of its affairs that makes for success is accepted too lightly by the individual grower in many instances, with the result that frequently the principles of co-operation are jeopardized and oftentimes receive serious setbacks through incapable or discreditable management. This duty Mr. Grower-Member must accept as one of his important responsibilities.

Prominent of the causes of failure among the co-operative organizations are the shortcomings of underpaid employes carrying responsibility and improper exploitation of growers' associations by selfish interests among the officials in charge. Too often are these official positions striven for, as are some political plums of the public employe, by men more imbued with the desire for selfish gain than the furtherment of the welfare of constituent growers. However, experience has shown this practice to be greatly reduced by the elimination of salaries of all officers not devoting their services exclusively to their association, thus attracting to the elective offices only men with upright, unselfish motives, more devoted to the interests of the growers collectively than individually.

The successful co-operative fruit growers' organization is that one which does:

1. Control all or a good majority of the commodities produced in its district and such as are handled by it.

2. Command the confidence and loyalty of its membership.

3. Be capitalized sufficiently as not to be required to incur indebtedness, but yet be established as to credit as to be able to secure loan accommodations, should that be necessary, without exorbitant interest charges.

4. Procure for its own needs and those of its membership supplies, packing material, implements, fertilizer, seed, nursery stock, etc., at low costs, quality considered, through purchases by contract and otherwise in large quantities.

5. Afford suitable and adequate facilities for the grading and packing along improved economic lines of the products of its membership.

6. Through rigid inspection and careful packing, together with judicious advertising, establish a reputation for high-quality products, and thus create a distinctive demand for its trade-marked brands among the wholesale, retail and consuming trade of the country.

7. Control the harvesting and shipment of its growers' products so as to regulate distribution as near as possible to conform to supply and demand.

8. Through competent management and with proper facilities sell its output at profitable prices and make returns therefor to the contributing growers without delay.

So much for the ideal local association, but what about those "proper facilities" that shall sell the output at profitable prices—that accomplishment most important of all—turning into cash the results of great care, hard toil and considerable expense? Here is where many co-operative fruit growers' organizations, though they may closely follow the ideal in several respects, widely diverge as to marketing methods.

Let us review some of the methods in vogue with existing co-operative organizations in various producing districts of the country. Among them we find:

1. The consignment plan, whereby goods are consigned without control direct to commission merchants with rebates on the receiver's commission that tend to maintain the shipping association. With limited tonnage and selections of thoroughly dependable agencies this plan has some advantages.

2. Contract distribution by commission merchants who undertake disposal of entire crops, but who, because of reciprocal obligations among commission merchants of other markets, must necessarily reconsign at additional commissions, rather than effect outright sale to these dealers of a large portion of the products handled.

3. The district marketing by the association managers by means of telegraphic and telephonic communication with car-lot buyers, a system conducted with some degree of success where the tonnage is limited and adjacent to important consuming centers.

4. The employment of resident brokers among the markets open to the association, these agents being generally satisfactory where not dependent for a livelihood upon the good will of the trade and disposed sometimes to favor unscrupulous buyers at the expense of the shipping account.

5. The temporary employment for short-time periods of local men selected from among the fruit growing communities and dispatched to the marketing centers to conduct car-lot sales to wholesale dealers. It must be obvious that generally these men, lacking trained salesmanship, experience, knowledge of local trade conditions and familiarity with "tricks of the trade," are, and of necessity must be, at considerable disadvantage in their selling operations.

6. The state-wide exchange plan contemplates concentration of selling efforts on the part of allied shipping organizations within the State through a central exchange or clearing house, thus by a combined tonnage securing the benefits of economy

of operation, equitable distribution and the lessening of much wasteful competition.

Of these methods enumerated the exchange plan must appear as that having the most advantages. We have but to look about to determine the effectiveness of such combinations of fruit growing interests.

Let us first refer to California, where exists the commonly accepted ideal growers' marketing organization, the California Fruit Growers' Exchange, with headquarters at Los Angeles. The California Fruit Growers' Exchange is a co-operative body of approximately six thousand fruit growers distributed among over one hundred local associations within the state.

Through its strength of number and consequent tonnage shipped over a period of ten months in a year this federation of growers is enabled to and does maintain offices of its own in the principal marketing centers. This established selling force largely facilitates equitable distribution among the markets and, excepting a small percentage handled through auctions in a few of the largest cities, the fruit of the growers, members of the exchange, is disposed of through outright sale in car lots to local wholesalers, prices being governed practically by supply and demand.

The exchange is a formation of seventeen districts, or sub-exchanges comprising one hundred seventeen local associations within the state, all operated on a nonprofit co-operative basis and shipping collectively in a normal season about twenty thousand carloads of fruit. It should be noted that the success of this organization is largely attributable to the thoroughness of this exchange's selling organization and to the binding contract existing between the association and its members, there being little opportunity for a degression on the part of the growers, a harmful practice so common to members of co-operative bodies in some states.

In Florida may be found a somewhat similar organization of citrus fruit growers comprising nine exchanges, attached to which are about sixty local associations, but with less than twenty per cent of the state's crop under control. With this limited tonnage, moving as it does within a short period of the year, the Florida exchange is only warranted in operating but a few sales offices of its own, using principally for an outlet for the growers' fruit the auctions of a few of the larger markets.

Reverting to California, we may note the success of fruit marketing interests in the operation of the California Fruit Distributors, composed of fourteen incorporated shipping organizations operating one hundred or more packing houses in the shipping and marketing of about six thousand cars of deciduous fruits annually.

Extending our observations into the northwestern apple country, we find that territory quite as progressive in the matter of co-operative organization of fruit interests as in the effort to lead the country in the production of fine apples. In fact, control of 80 per cent of a normal season's crop of twelve thousand carloads of boxed apples, there being about equally divided between the Northwestern Fruit Exchange of Portland, Ore., with three subdivisions comprising twenty-eight local units within the states of Oregon, Washington and Idaho, and the North Pacific Fruit Distributors, a coalition of shipping associations and independent shipping companies heretofore competitive with one another.

These references to a few of the larger organized shipping interests, most all of which have passed the experimental state and accepted as substantial and successful institutions, must be sufficient to indicate the success of co-operative effort along broad, extensive lines.

While considerable organization exists, combination among fruit producing factors has not kept pace in that respect with other lines of industry. Yet much good progress is being lately made, thanks to greater assistance from state and federal departments devoted to agricultural pursuits.

As regards modes of marketing, we find to date but one single co-operative organization (the Exchange of California) sufficient in strength and tonnage to warrant the maintenance of its own selling machinery on a complete scale—a trained and experienced sales force quite as essential to the effective selling operations of the important fruit shipping associations as the large commercial establishment.

Excepting the citrus fruit territory of California, no fruit producing section extends its shipping period beyond a very few months of the year, consequently the establishment of any extensive sales force among the marketing centers by the independent co-operative association or exchange is obviously impractical.

It was in recognition of this fact, and the great need by fruit shipping interests of marketing facilities better than those then available, that measures were undertaken in 1910 to create a central, country-wide selling agency with a corps of trained salesmen located in all the important consuming centers that might be utilized jointly by noncompetitive co-operative associations and exchanges of good standing that would ship their products in consecutive season periods throughout the year.

This concentration of selling effort by important shipping factors variously located from Florida to Oregon was to make possible the year round operation of a thoroughly organized selling force under the expense to the independent association only as actually used.

This plan contemplated the operation of the forces at the marketing end under the direction of the independent association manager during his respective shipping season in the execution of sales orders and acquiring authentic information of markets to facilitate cash selling and distribution.

It was thus the North American Fruit Exchange, referred to as an exchange of exchanges, was organized by horticultural interests of Florida, West Virginia, New York and Oregon and incorporated in January, 1911.

The exchange's board of directors include Messrs. R. H. Parsons, president of the Rogue River Fruit & Produce Association, Medford, Ore.; W. F. Gwin, general manager of the Northwestern Fruit Exchange, Portland, Ore.; Wm. Campbell, secretary and manager of the Virginias' Fruit Exchange, Charlestown, W. Va.; L. S. Tenny, general manager of the Florida Citrus League, Jacksonville Fla., and E. P. Porcher, manager of the Indian River and Lake Worth Fruit Association, Cocoa, Fla.

This central sales organization operates district offices in all important markets, and from its general offices at New York and Chicago constantly supervises the activities of this force, which is under directions of the affiliated shipping associations.

Presently the exchange's facilities constitute the marketing medium of organized shipping interests of Washington, Oregon, Idaho, Colorado, Arizona, Texas, Louisiana, Tennessee, Illinois, Michigan, New York, New Jersey, Maryland, Delaware, West Virginia, Georgia and Florida.

The many economic advantages to be derived from combination of fruit shipping factors can be no less than those of legitimate commercial and industrial combinations so prevalent throughout the business world of today.

That the State of Missouri offers great opportunity for the development of co-operation among fruit producers is evident to your Board of Horticulture, whose efforts to promote local and state-wide organization of those interests are warranting heartiest and substantial support.

THE MISSOURI ORCHARD CENSUS.

(John Bland, Secretary State Board of Horticulture.)

The orchard census of the State of Missouri was taken by the State Board of Horticulture in the years 1912 and 1913.

This census was obtained by canvassers working under the direction of district supervisors. Each fruit grower was visited by a canvasser. A report of this census will be found in the seventh annual report of the State Board of Horticulture. This includes the names of 16,705 fruit growers, with data as to the size and character of their fruit plantings, acreage of apple orchard, acreage of each variety of apples, acreage of each kind of other fruits, whether or not the grower sprays, the age of his apple orchard, and the exact location of his farm in the county. Each of ninety counties is mapped separately. Each grower has a number on a map, placed in a position to correspond to the location of his orchard in the county. A number corresponds to a grower's name and will be found attached to it along with the other figures showing the character of his plantations.

This report includes, also, five large maps, showing the comparative importance of the different kinds of fruit in the different parts of the State, and twenty-four maps showing comparative data of different sorts in the counties of the State.

This orchard census is the first of its kind taken in the United States, and represents the expenditure of a great amount of money. The purpose in taking it was simply to place the fruit growers of the State in touch with the Board of Horticulture so that the Board's service could be extended as far as possible.

The following table gives statistics for the various counties of the State. Excepting in a few counties no orchard less than two acres in size was listed, so that these figures are from commercial orchards only:

STATISTICAL SUMMARY.

TOTALS FOR EACH COUNTY.

	Number of fruit growers	Total acreage of apple orchards	Number of car lot shipments of apples in 1912	Acreage of peach orchards	Number peach growers	Acreage of strawberries	Number of strawberry growers	Acres of					Apple trees over 8 years old.		Orchards sprayed	Orchards not sprayed
								Pears	Grapes	Blackberries	Cherries	Raspberries	Sprayed	Unsprayed		
Adair	77	259	8.3	8	9	3	4	...	2	4	4	...	63	183	10	57
Andrew	155	1621	546.0	46	18	2	5	1	45	1	2	50	242	1463	10	136
Atchison	162	1233	95.6	29	4	...	...	...	...	...	...	...	356	872	27	138
Audrain	44	295	14.5	28	9	5	1	13	...	...	1	...	53	242	4	33
Barry	511	4394	27.8	1147	176	517	147	61	...	106	46	4	716	3103	47	291
Barton	269	1767	1.8	41	17	...	...	...	...	...	...	...	14	1714	4	253
Bates	6	605½	78.3	20	1	...	1	18	1	...	1	...	565	9	2	3
Benton	107	492	1.1	130	44	15	6	29	22	2	1	5	55	395	3	73
Bollinger	556	1152	13.4	430	243	...	59	53	2	...	1	...	50	881	12	309
Boone	86	1113	106.2	73	19	8	3	3	...	2	3	...	269	706	17	65
Buchanan	1145	6270	1091.1	490	161	122	77	80	108	91	51	105	34	5966	108	922
Butler	50	470	......	50	20	...	1	8	1	4	...	1	24	223	3	41
Caldwell	95	724	37.6	27	16	...	2	6	...	...	7	...	124	555	15	68
Callaway	176	1321	40.4	200	78	5	6	14	13	51	3	4	175	993	15	131
Camden	44	625	......	17	4	...	2	...	...	1	5	...	60	489	3	35
Cape Girardeau	249	616	1.4	8	5	...	1	...	2	...	1	...	105	442	23	207
Carroll	280	2529	345.2	69	30	5	4	2	1	1	1	2	538	1719	16	242
Carter	7	233	1.1	17	3	...	...	10	2	...	...	1	138	95	3	3
Cass	132	1308	99.2	87	23	2	3	5	2	3	13	...	121	1160	5	121
Cedar	100	509	......	47	41	4	13	1	10	1	13	2	28	452	3	83
Chariton	167	1292.	26.7	194	19	6	1	13	...	...	12	1	144	921	10	146
Christian	51	486	9.6	78	16	7	1	31	...	...	1	...	81	387	3	44
Clark	28	139	2.6	6	3	4	3	2	1	...	1	3	30	83	8	15
Clay	154	946½	188.7	98	37	24	14	25	17	14	50	22	200	691	21	119
Clinton	153	724½	47.6	33	39	5	3	10	1	...	2	1	97	566	11	120
Cole	54	317½	3.4	66	24	4	5	18	3	7	8	2	151	99	15	27
Cooper	122	1231	66.9	80	47	2	14	23	20	1	5	3	590	616	23	85
Crawford	233	3118½	48.3	91	37	9	12	7	3	17	4	...	491	2270	33	181
Dade	31	1128	46.5	56	6	...	...	...	...	...	3	...	565	463	9	17
Dallas	180	984	......	17	12	...	...	...	3	...	...	...	256	651	5	149
Daviess	84	679	20.4	84	31	7	6	124	2	2	9	4	350	319	36	44
DeKalb	43	325	9.6	8	6	...	1	14	...	...	8	2	110	199	8	30
Dent	154	1259	4.4	...	53	...	10	...	1	6	...	...	40	1120	3	131
Douglas	...	......	22.2	...	...	...	...	...	...	...	...	...	...	...	...	...
Dunklin	...	......	0.6	...	...	...	...	...	...	...	...	...	...	...	...	...
Franklin	79	485¾	8.9	97	44	4	2	22	8	1	2	...	155	246	16	47
Gasconade	68	121½	1.7	5	4	...	...	3	110	...	...	...	4	116	2	17
Gentry	93	924	10.0	26	10	1	2	9	1	2	3	...	312	613	22	64
Greene	308	4611½	295.3	154	31	209	63	29	...	17	46	1	2155	2338	46	174
Grundy	75	605	28.2	32	9	4	3	8	...	...	3	1	206	397	11	63
Harrison	121	790¾	26.8	26	9	...	...	13	2	1	2	...	119	670	7	96
Henry	72	461	19.7	24	11	3	2	5	4	8	6	3	136	300	14	49
Hickory	100	737	0.8	26	16	3	5	...	5	4	3	...	221	525	6	81
Holt	459	3205¾	735.6	194	89	5	7	22	7	9	10	9	1221	1922	79	363
Howard	166	1646	127.6	93	24	2	1	19	...	...	7	...	739	744	13	121
Howell	463	6257	151.5	2784	244	300	98	2	66	134	5	4	2572	3229	64	289
Iron	123	459	0.1	182	71	3	4	21	5	5	5	...	58	205	9	59

STATISTICAL SUMMARY—Continued.

	Number of fruit growers	Total acreage of apple orchards	Number of car lot shipments of apples in 1912	Acreage of peach orchards	Number peach growers	Acreage of strawberries	Number of strawberry growers	Acres of							Orchards sprayed	Orchards not sprayed
								Pears	Grapes	Blackberries	Cherries	Raspberries	Apple trees over 8 years old.			
													Sprayed	Unsprayed		
Jackson	228	3963	304.8	268	80	23	11	79	22	14	67	5	1252	2460	61	126
Jasper	135	684	0.3	20	12	257	47	16	1	10	10	8	57	576	14	81
Jefferson	65	267	7.2	101	30	28	21	11	16	28	4	1	10	143	8	24
Johnson	68	744	14.0	30	13	2	1	15	...	1	1	...	77	653	3	60
Knox	15	253½	10.3	5	3	...	...	6	1	1	5	1	120	89	4	7
Laclede	111	1463½	60.3	23	3	...	...	4	2	6	2	...	186	1270	6	94
Lafayette	182	2134	816.5	9	4	...	...	13	...	...	...	...	1455	656	76	93
Lawrence	1089	4681	195.2	571	116	1157	370	45	18	120	214	19	1879	2465	114	686
Lewis	52	268	...	4	4	...	...	8	...	...	3	...	114	142	14	35
Lincoln	126	855	20.5	22	9	1	1	...	...	...	...	...	146	636	9	98
Linn	89	603	7.0	33	22	1	1	6	3	2	20	...	91	490	12	76
Livingston	81	1337	91.4	36	9	5	...	2	1	1	12	1	492	845	9	73
McDonald	277	2287	26.5	346	54	442	140	...	6	5	2	2	647	657	8	200
Macon	156	1728	75.5	16	11	1	1	25	1	6	2	...	845	871	29	126
Madison	77	273	...	79	34	1	1	11	2	2	1	1	68	199	6	59
Maries	58	649	0.7	15	3	...	...	...	...	...	...	...	16	530	1	44
Marion	60	1165	43.2	112	27	1	2	16	16	1	3	1	458	651	28	29
Mercer	102	675	...	10	3	4	1	44	4	3	6	6	136	539	13	75
Miller	126	831	0.2	44	25	3	7	7	2	6	2	1	129	532	9	85
Mississippi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Moniteau	12	283	7.7	20	2	1	1	...	...	...	...	...	65	218	4	8
Monroe	63	654	15.4	51	7	5	1	20	...	...	...	...	8	640	1	60
Montgomery	98	430	16.6	21	7	...	...	19	1	...	5	...	105	187	10	55
Morgan	75	508	9.9	21	8	¼	1	5	2	1	1	...	95	405	7	59
New Madrid	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Newton	518	3010	26.1	465	109	905	270	17	197	85	55	8	755	1861	52	173
Nodaway	350	1951	57.3	12	7	...	...	8	...	1	...	...	571	1367	45	286
Oregon	112	458	20.0	2588	82	26	8	3	1	20	...	...	236	27	18	3
Osage	48	144	4.1	53	32	1	1	6	25	1	1	...	8	93	6	28
Ozark	17	86	...	31	13	...	...	...	3	...	...	...	...	26	...	6
Pemiscot	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Perry	130	249	21.6	15	29	3	3	6	3	...	8	...	25	169	7	106
Pettis	120	682	35.0	55	26	17	8	41	2	7	12	3	153	512	22	96
Phelps	61	506	19.7	6	3	...	...	6	...	...	...	...	37	430	4	51
Pike	238	1732	56.3	161	57	16	11	151	4	2	11	10	531	1067	39	202
Platte	349	3025	620.1	331	85	5	8	5	1	1	1	10	1521	1415	83	254
Polk	118	832	26.1	13	10	6	7	1	1	5	2	1	198	562	13	107
Pulaski	102	1175	16.0	89	15	...	...	2	6	...	1	...	148	918	9	89
Putnam	30	197	2.5	...	1	...	...	...	...	1	7	...	10	175	1	28
Ralls	149	1422	41.9	103	34	4	4	35	2	3	6	9	805	610	39	96
Randolph	55	544	18.7	9	6	9	2	...	3	5	1	...	79	465	6	49
Ray	88	651	214.7	38	14	1	3	...	2	3	8	1	150	479	9	76
Reynolds	84	378	...	97	31	2	2	3	5	1	...	...	18	262	4	71
Ripley	168	433	0.8	413	123	9	6	22	2	3	2	1	101	312	20	151
St. Charles	148	1399	70.4	16	6	...	...	29	48	...	5	...	237	1152	20	111
St. Clair	64	558	10.9	42	30	6	3	...	1	3	3	1	123	421	8	48
St. Francois	97	480	...	228	47	8	6	21	25	15	17	1	105	259	13	73
Ste. Genevieve	...	...	0.4	...	...	...	...	...	...	...	...	...	...	...	...	...
St. Louis	252	616	6.0	703	190	150	115	50	92	97	88	41	291	258	77	74
Saline	173	1230	40.8	53	30	4	4	4	2	1	6	2	151	854	11	172
Schuyler	41	140	0.1	9	11	1	1	5	1	1	...	...	22	103	12	41
Scotland	29	88	0.1	7	6	...	1	1	3	...	3	1	18	53	7	29

STATISTICAL SUMMARY—Continued.

	Number of fruit growers	Total acreage of apple orchards	Number of car lot shipments of apples in 1912	Acreage of peach orchards	Number peach growers	Acreage of strawberries	Number of strawberry growers	Acres of							Orchards sprayed	Orchards not sprayed
								Pears	Grapes	Blackberries	Cherries	Raspberries	Apple trees over 8 years old.			
													Sprayed	Unsprayed		
Scott	26	85	0.7	53	15	....	9	15	12	2	1	...	23	58	8	26
Shannon	194	1418	3.3	202	65	10	22	11	17	40	...	1	255	1148	21	193
Shelby	49	285	9.3	15	6	3	3	9	...	...	4	2	84	178	4	24
Stoddard	107	504	......	180	68	17	14	15	4	5	6	5	95	310	12	75
Stone	78	361	5.6	79	21	36	11	81	1	...	1	...	33	234	12	51
Sullivan	79	397	2.9	7	5	....	...	48	1	1	3	1	61	325	6	68
Taney	94	403	......	437	67	9	3	11	161	4	1	...	75	107	7	59
Texas	534	2988	40.0	338	143	....	...	15	5	1	5	...	10	2774	2	509
Vernon	59	932	8.5	27	7	21	4	8	...	...	3	4	217	709	1	53
Warren	59	344	8.1	55	20	2	4	8	6	2	9	4	38	224	4	40
Washington	86	324	......	196	36	2	3	75	18	3	2	...	53	204	9	63
Wayne	44	402	......	34	17	1	1	10	7	...	5	...	20	231	1	32
Webster	262	3069	205.9	61	24	2	2	3	1	...	2	1	301	2643	9	234
Worth	53	229	1.6	36	13	1	1	...	...	...	2	...	30	191	3	53
Wright	266	2569	307.6	346	116	14	14	53	21	12	13	7	280	2185	12	239

Basket of Elberta Peaches from Southern Missouri.

Missouri State Dairy Association.

OFFICERS.

President—Marshall Gordon, Columbia.
First Vice-President—C. W. Kent, Kansas City.
Second Vice-President—O. O. Harlan, Marionville.
Treasurer—Rudolph Miller, Macon.
Secretary—P. M. Brandt, Columbia.

The program as given below was carried out:

THURSDAY, JANUARY 15TH—ROOM 117, AGRICULTURAL BUILDING, 1:30 P. M.

The Selection of the Cow by Type, P. M. Brandt, instructor in dairy husbandry, University of Missouri.

The Co-operative Creamery in Missouri, E. G. Bennett, State Dairy Commissioner.

Developing a Dairy Community, O. O. Harlan, Marionville Creamery Co., Marionville.

FRIDAY, JANUARY 16TH—ROOM 117, AGRICULTURAL BUILDING, 1:30 P. M.

Feeding for Milk Production, C. H. Eckles, professor dairy husbandry, University of Missouri.

The Relation of a Creamery to Its Patrons, E. K. Slater, Blue Valley Creamery Co., St. Joseph, Mo.

The Value of Cow-Testing Associations, Will Forbes, Dairy Division, Washington, D. C.

The following premiums were awarded in the butter scoring contest:

CREAMERY CLASS.

Holden Creamery Company, first, score 95, amount $10.00; Marionville Creamery Company, score 93, amount $8.00; Pierce City Creamery Company, score 92, amount $6.00; Marceline Creamery Company, score 90½, amount $4.00.

DAIRY CLASS.

J. R. White & Son, first, score 94½, amount $5.00.

There were twenty creameries exhibiting butter this year which made the largest exhibit shown in a number of years.

The association voted to buy a $50.00 silver loving cup to be awarded to the owner of the cow making the best official record during 1914. This cup is to be awarded annually and must be won three successive years before it can be retained permanently by any one winner.

The association urged the State Fair Board to make larger appropriations for premiums in dairy cattle classes. A resolution to that effect was passed and Mr. E. G. Bennett, State Dairy Commissioner, was charged with the duty of presenting the same. Resolutions were passed by the association as follows:

RESOLUTIONS.

Whereas, The dairy industry of the State of Missouri is fast developing into such large proportions and bids fair to become one of the leading industries in every section of the State and already is in some parts of the State, and

Whereas, The premiums offered on dairy cattle at the Missouri State Fair have heretofore been less than those offered at state fairs in representative adjoining states, and

Whereas, A better premium list for dairy cattle at the Missouri State Fair would furnish incentive for bringing out a larger and better representation of the dairy cattle of this State at our State Fair, as well as attract many desirable exhibits from leading dairy herds of adjoining states; therefore,

Resolved, That we, the members of the Missouri State Dairy Association, this day assembled in annual convention, hereby recommend that the Missouri State Fair Board increase its list of premiums at the Missouri State Fair on the three leading dairy breeds of this State, viz., Jersey, Holstein, and Guernsey cattle, equal to those offered on these cattle at the state fairs of Illinois, Iowa, Wisconsin and Minnesota; and that we lend our hearty endorsement of such increase when it is made by such Board.

Resolved, That we endorse the plan for a general dairy show as proposed at the annual meeting of the Southwest Jersey Cattle Club, such show to be held at Kansas City next October.

Resolved, That we thank the State Board of Agriculture and the dairy department of the State University for many courtesies shown to this association.

Resolved, That this association is to be congratulated on account of the recent decision of the court of appeals upholding the oleomargarine law, thus establishing the existing form of a desirable statute.

Resolved, That we advise the establishment of district dairy associations, which may hold frequent meetings and thus keep alive active interest in dairying; and that we further advise that delegates from the district associations be sent to the annual meetings of this association; and in order that this arrangement can be made effective we recommend that the president appoint a committee to draft definite plans to this end.

A committee was appointed and charged with the duty of making a definite plan outlining the work to be done by the association in the future. It was the sentiment of those present that the association should find a field for its endeavors that was not covered by the work of the dairy department of the University or the State Dairy Commissioner.

THE RELATION OF A CREAMERY TO ITS PATRONS.

(Edward R. Slater, educational commissioner Blue Valley Creamery Company.)

It is with genuine pleasure that I undertake to tell the delegates to a Missouri dairy convention something about the educational work that is being done by the Blue Valley Creamery Company, because the grand old State of Missouri is the home of Blue Valley. What the word "home" means to the individual it means to the business organization, providing that organization is made up of men who have time for the finer things of life.

Personally, I can only speak for the educational work that has been carried on for the past three years, during which time I have given my whole thought and attention to it. There are no doubt many of you who know more about the earlier work done, especially in this State,where the first dairy trains in this country were run in 1904, also the first dairy congress was held—the one at St. Joseph in 1906.

The men who have guided the policies of the Blue Valley Creamery Company have always appreciated the fact that the foundation of the dairy industry is the dairy cow and that her owner must prosper if the business as a whole is to prosper.

An effort has been made to not only pay the farmer a high price for cream, but to show him as well how to keep more and better cows, how to care for them better and how to produce cream of good quality.

In order for you to gain the right impression of what has been attempted it will be necessary for me to go somewhat into details.

In the first place, allow me to state that at no time has our educational work supplanted work done by farmers' institutes, dairy schools, dairy officials and the like. It has rather supplemented their work and at all times has been carried on in perfect harmony with the work of these other educational institutions.

Oftentimes we are enabled to give suggestions that are adopted by cream producers who might not follow the same suggestions coming from other sources. We are paying them cash for their product, and the close business relation existing is the one thing necessary to make their minds receptive.

We endeavor in several ways to get practical suggestions to them. They may be summed up as follows:

First—Through the Blue Valley Bulletin, a 24-page monthly dairy paper, which is sent free to shippers. An effort is made to make this entertaining as well as instructive, keeping in mind the fact that a paper must be read before it can be effective.

Second—Through traveling representatives who are trained to give helpful suggestions, not only in regard to quality of product, but as to feeding cattle, etc., etc. These men are kept posted regarding the quality of cream received from each patron so that in calling at the shipper's home he can give intelligent information to him.

Third—Through correspondence by competent authority on breeding and feeding cattle and kindred subjects. This feature of the work has been exceedingly productive of good results and is developing from year to year.

Fourth—Through special bulletins on important subjects of dairying and on correct dairy events such as pending oleomargarine legislation, etc.

Fifth—Through a sort of exchange bureau or clearing house by which patrons with dairy animals to sell or others wishing to buy are brought into contact.

Sixth—Through co-operation with dairy school extension movements and similar institutions.

Seventh—Through holding stereopticon dairy meetings consisting of an afternoon or evening program of entertainment and instruction on selection of cows, dairy barn construction, feeds, the silo, handling of dairy products, cream markets, etc., etc.

These meetings are held mostly during the winter months, and last winter more than 40,000 farmers, by actual count, were in attendance.

Inasmuch as the kind of educational work we are endeavoring to do in all of the different lines finds expression in these stereopticon meetings, it might be well for me to mention the points we endeavor to emphasize at these meetings.

We point out that there are three kinds of cattle:

First—The kind that eats lots of feed and gives lots of milk—the kind for the dairy farmer.

Second—The kind that eats lots of feed and produces beef most cheaply—the kind for the exclusive beef man.

Third—The kind that eats lots of feed, and the Lord only knows what they do with it—the kind to weed out of the herd.

We do, however, keep in mind the fact that there are many farmers in the corn belt that ought to be producing dairy products that are not, and we try to get them interested in the dairy business by pointing out that they can better afford to keep a cow that will produce milk enough to at least pay for her keep and raise good beef calves.

We do this without deviating one iota from the principle that the cheapest producer of dairy products is the special type dairy cow, but we recognize that there are many farmers who will not keep special type dairy cows and many others who could not make a success with them even if they should keep them.

We believe that it is to the best interests of the dairy industry to make our instructions fit local conditions and individuals as far as possible.

We try to make the beef producer a dual purpose producer, rather than be content to leave him out of consideration from a dairy standpoint altogether.

We give little attention to the question of breeds except to emphasize the character of each breed and their adaptability to the work for which they are wanted.

With the right kind of a cow for the work to be done, the next consideration is a proper place to keep her. In order to do this it is not necessary to add greatly to the expense incurred by the average farmer in providing shelter for his cows. It often means simply a better arrangement, providing for comfort, sunlight and proper ventilation.

With these things provided the rest depends upon the owner. If he is temperamentally fitted for taking care of cows he is sure to succeed.

The cow is a mother and her calf is a baby, and the man who doesn't keep this in mind and treat them accordingly cannot succeed in the dairy business. With the right kind of a cow to start with his profits will be in proportion to his sympathy and thoughtfulness in carrying on his dairy work.

The next consideration is plenty of the right kind of feed, keeping in mind that certain feeds are particularly adapted for meat production and body maintenance while others are particularly adapted for milk production. How to balance those feeds in the ration so that the cow can give her maximum flow of milk at the lowest cost is one of the real studies of the dairyman. In no other branch of his work will he be better repaid for intelligent thought and study.

How to produce the feed on the farm most economically is very important. It is advisable to raise alfalfa or clover, depending upon locality, so that farm-grown grains can be used without buying mill feeds and still feed a good ration.

We have been giving particular attention to the building of silos, and have stereopticon slides explaining each step in the erection of stave and monolithic cement silos. Our efforts along this line have been particularly successful. The silo is the cow's winter pasture and should be on every farm.

It is to the mutual interest of producer and manufacturer of dairy products to give constant attention to the question of quality. Good cream makes good butter and good butter means high prices for that butter and high prices to the producer of the cream.

Cold and cleanliness are the two things necessary in the production of good quality, and expensive equipment is not necessary.

We have succeeded in interesting our shippers in building cream tanks and in many cases separate cream houses. We have furnished them with plans and specifications complete.

In connection with this question of quality we will add that it has always been a wonder to us why some cream that reaches our factories is of so much higher quality than other cream that may not be half as long in reaching us after it is separated, and both lots of cream produced under apparently the same conditions. To us it seems that there must be some bacteriological reason for this that dairy science is not familiar with as yet.

Our experience teaches that acid in cream is not necessarily objectionable to the manufacture of high grade butter. The main trouble we experience is with what we term "old flavor" in cream, but not necessarily *old cream*, and the reason why we say that we believe this question is a bacteriological one is because we receive hundreds of cans of cream that are absolutely clean in flavor, and upon the other hand, we receive some cream which we know is not half as old that has this decidedly old flavor. Our experience assures us that some one will solve this question.

In our endeavor to improve the quality of cream received at the creameries in this country we must keep in mind the economic phase of the question. We must consider the farmer's cost of producing the cream, keeping in mind always that his cost of production must be enough below what he receives for it to return him a profit that will encourage him. Otherwise the business can not grow.

In spite of all that has been said against the hand separator by a few creamery butter makers, it has done more to enable the farmer to meet increased cost in producing dairy products than any other one thing.

It has enabled him to reduce the cost of getting his produce to market, and under the old whole milk system the cost of marketing was tremendous.

Among several reasons for the farmer's adoption of the hand separator is the important one of economy of getting his cream to market. A can of cream is now a finished product of the farm, just like a fat hog or a fat steer, and the farmer can patronize the best market whether at home or in some distant city.

He appreciates this economic feature of the hand separator, and it is one of the things that is keeping him on the milking stool.

Those who would bring about improvement in quality of cream should keep in mind this economic feature, and if possible—and we believe it is possible—bring about such improvement without asking the farmer to add to his present cost of getting his cream to market.

There is no question but what the quality of cream going to the creameries in this country should be improved. The same improvement that has been made along lines of better dairy stock has not been made in the quality of the cream delivered by the farmer.

But in working for better quality of cream we must keep in mind certain fundamental economic principles if we are going to get anywhere. This subject of better quality is a beautiful subject on which to theorize, and there are plenty of men in this country who take advantage of the opportunity. Some would compel daily deliveries of cream, some would establish acidity standards, some would have government inspection, some would establish a mileage limit, while some would require all butter to be made from sweet cream. The majority of those who advocate these different plans for quality improvement have in mind the best interests of the dairy industry. To them we would especially sound this note of warning, backing it up with the practical business side of this quality proposition.

The warning is this: Do away with ideals and meet this question on the ground instead of in the clouds. Remember that today we are dealing with cream not whole milk. Remember also that a horse may be led to water but that he can not be forced to drink. Farmers are not producing cream at a handsome profit and will not meet ideal requirements. If forced to choose between them and going out of the business they will do the latter. It is not sufficient to answer that he will get more money for better quality. If he is going to get more money for better quality then the consumer will have to stand the bill, and this the consumer will not do. He is already protesting against the high prices of dairy products, and any movement looking toward forcing the consumer to pay increased cost of production is dangerous. One has but to study the growth of the oleomargarine industry to gain this truth.

There will always be a sufficient demand for good, wholesome butter to insure a price to the farmer for his cream that will enable him to stay in business, providing we don't force upon him unnecessary expense, and providing further that we don't try to make the consuming public pay for a lot of frills and fads that it has not been educated into, and never can be.

We believe absolutely in protecting public health, we believe absolutely in laws that require wholesomeness in food products, but when these have been accomplished we believe just as strongly that the producer's interests, from an economic standpoint, is the important thing to consider, and along this line the work of our educational department has been directed.

We have also been giving considerable attention to the question of cream markets in our educational work. We have felt that it is essential that the farmer understand the marketing of his dairy products as well as understanding their production. The cost of production, of course, remains the same no matter what market the farmer may patronize, and the difference in cash between a poor market and a good one is all clear profit to the farmer.

There are several distinct types of markets for dairy products, all of which we endeavor to clearly explain to the man who has cream to sell. These may be summed up under the following heads:

First—*City Milk.* The man who has a sufficient number of cows and lives near a large city can generally find a market in that city which will pay him more ready cash than any other market. He sells his whole milk there at retail or at wholesale, or both. He must, however, be content to give his whole attention to his dairy work and not raise very much young stock because he, of course, does not have his skim milk for feeding purposes. As a rule, such a producer is not what we would term a good dairyman. He is a buyer and seller of ordinary cows, looking for high producers, and is content to get a few years' service out of the heavy producers and then get rid of them. Producing milk for city consumption is not a business which tends to develop the kind of dairymen that are the backbone of the dairy industry, although, of course, they fill an important place in society.

Second—*Dairy Butter.* In spite of the fact that the creamery business has developed until there are about 10,000 creameries in the United States, we are told that about one-half of the butter made in this country is made in home dairies. Of course, a large per cent of this dairy butter does not get upon the market. A large part of it is consumed in the home where it is made. Some dairymen are so situated both geographically and in a domestic way so that they can find a market for butter which returns them as high a price throughout the year as a good creamery can offer them. This is not true generally, however, and even where it is true, it often happens that the good housewife is burdened with this chore because of her patience rather than choice. There is still too much poor butter made in this country and sold to the grocery store. Its quality is generally poor, and before it can be consumed it must go to the renovating factory and be made over. The process and renovating butter factories stand as monuments to the shortsightedness or carelessness of a certain class of cream producers who might patronize some creamery because there are very few farmers living where they cannot reach a modern market for their dairy products.

Third—*Local Cheese Factories and Creameries.* Of course, when hand separators come into a community the cheese factory gets out, if it was ever there. Whether it is a cheese factory or a creamery, there must be the right kind of co-operative sentiment in a community in order to make the local market a successful one. Please keep in mind, too, that when we use the term successful market we mean successful from the producer's standpoint. In our educational work we never have a word to say against a local creamery and cheese factory in a community where conditions are just right to promote their operating successfully. The nationality of the people is quite as important as a sufficient supply of raw material and good business management. As a rule, we advise against the establishment of local creameries because there are few communities where conditions are right. We have seen so many of them fail, especially in the older dairy sections, that we always feel that we have done a service to a community when we point out the essentials for success in running a local creamery and the many chances for failure. When a creamery fails it gives the dairy business in a community a setback. No one who has the best interests of the dairy industry at heart wants to see a creamery fail. The best way to prevent such a catastrophe to a community is to go mighty slow about starting a creamery in the first place. Starting a local creamery nowadays is an entirely different proposition than what it used to be. The almost universal use of the hand separator has changed conditions entirely. More of these creameries made a success fifteen years ago than at the present time. Such creameries used to furnish the one market to a dairy farmer. They had a complete monopoly on the business in the community. They no longer have such a monopoly. Under present-day hand-separator conditions the principle of the little local creamery is entirely wrong. Such a creamery is limited to certain districts and subjected to outside competition. We do not mean by this that it is impossible for a small local creamery to do a successful business. We simply wish to emphasize that the chances are against it.

Creamery promoters with machinery to sell have done more and are still doing more to injure the dairy business than any other factor. They go into a community agitating the building of creameries where, in a great majority of cases, there is and never has been enough cream to support a creamery, even if a creamery got all of the cream in the territory. They are out to sell creamery machinery at a good, stiff price, and that is their business. In some states the work of these promoters is made easy because men in the employ of the state get too enthusiastic and advise farmers to build creameries without a full knowledge of local conditions. They cannot spend the time necessary to study conditions in order to give valuable business advice, and in some cases are not familiar with the dollars and cents end of the creamery business. Their enthusiasm has thus been the cause of starting creameries that failed after a few months' operation.

The local creamery is founded on sentiment, and this is a poor basis upon which to build an industry unless that sentiment is supplemented with enough cream to make a successful business and good business management.

Fourth—*Centralized Creameries.* Under this head we put those creameries that are out to get a large volume of business, through cream stations and cream wagon routes, centralizing a large volume of business in one place. These stations or routes are convenient for the farmer, and many farmers choose to take a lower price for their product in order to enjoy the convenience of having the cream wagon call at their doors or to take any quantity of cream they may have to sell to the local buyer almost any time of the day or night. Of course, the expense of gathering and hauling cream to the creamery must all come out of the farmer's cream, and if he is to enjoy the convenience of them he must not complain about footing the bill.

Fifth—*Hand Separator Shipping Creameries.* Under this head we place those creameries which receive only direct shipments of cream. The farmer ships his cream himself, and many farmers prefer to do this and get more for their product.

The argument in favor of these different systems and the farmers' reasons for patronizing them are familiar to all of you, and I have mentioned the different markets simply to point out the trend of our educational work as far as it relates to this question of markets. We contend that the dairy business will develop just in proportion to the satisfaction the farmer feels over his end of the business. There is mighty little sentiment in the dairy business with the average farmer. He is out to get all the cash he can, and we don't blame him a bit. When he gets good results for his labor and investment he is going to become more interested in the business, and this holds true in all lines of his farm work, and if we are to encourage him in the production of more dairy products we must increase his interest in dairying by paying him a price for his cream that will give him just returns. The sooner all of us, farmers and creamerymen, realize that this dairy business, either in the production or manufacturing end, must be run on economic, sound business principles, the better it will be for everybody. The sooner all sentiment is cut out of the business and the sooner we produce the cream, manufacture the butter and sell it at the lowest possible cost, the sooner will the dairy business be established on a basis that will enable the industry to develop as it should.

Such, my friends, is the nature of the work carried on by the Blue Valley educational department. We are striving to do the greatest good to the greatest number of individual farmers in helping them to get more and better cows and do the greatest good we can to the dairy industry as a whole. To this end it has been and will be dedicated.

WHY THE FARMERS OF THE SOUTHWEST SHOULD MILK MORE COWS.

(P. M. Brandt, dairy department, University of Missouri. Paper read at meeting of Southwest Jersey Breeders' Association.)

The permanent prosperity of a nation must rest upon its agriculture. Where agriculture has been decadent nations have declined. The history of the past decade proves that the agriculture of this country, if not actually on the decline, is at a standstill, and the result of this effects the producer and consumer alike in one respect, i. e., a rapid increase in the cost of living. This is a fact recognized by farseeing men to such an extent that at the present time we find some of the strongest minds of the country grappling with the problem of putting our agriculture on a permanent and sound basis. This has become a near national issue.

The prosperity of our agriculture depends very largely upon the condition of our soil fertility. One does not have to travel far over almost any railroad in the country before he sees the direct relation between the fertility of the soil and the outward appearances of prosperity on the part of the people farming it. The same is true of large sections of country, of states and of nations. The fertility of the soil of our nation is being rapidly depleted.

The new lands of our country that can be profitably farmed are practically all occupied. The only course left for the American farmer to pursue is to adopt a system of farming that will not only build up and maintain, but will increase the production of the land. The dairy cow seems to be the means through which a part of our farmers are destined to do this.

That the dairy cow can be the means through which agriculture can be put on a permanent and profitable basis is clearly shown by the history of the nation of Denmark. Forty years ago Denmark was on the verge of bankruptcy. The land had been run down through years of continuous grain farming. The people were poor and dissatisfied and were leaving the country for America as fast as they could get the money for their passage. A few of the farsighted men of the country saw a possible solution of their national problem in the dairy cow. Dairying was introduced into Denmark, and now the little nation once poverty-stricken is pointed out as an example of what can be done when the proper system of farming is followed. The country is prosperous. The production of soil has been increased to more than double what it was forty years ago. People no longer have a desire to leave, and, as a whole, they are considered among the best educated and intelligent of the world. The country exports annually over $47,000,000 worth of dairy products from an area of less than one-fourth that of Iowa.

The relation of the dairy cow to the fertility of the soil should make us all consider her seriously as a means through which we can restore our farming to a profitable basis. We have seen briefly what she has done for a nation.

Probably some of us have never stopped to consider some of the factors which have contributed to the gradual depletion of our soil fertility. When we see a farmer hauling fifty bushels of corn to town, worth in an average year about twenty-five dollars, we hardly think of him as hauling away fifteen dollars' worth of soil fertility with that corn. Yet if he brought back home in the form of commercial fertilizer the same amount of fertility he hauled off that is what it would cost. Likewise when fifty bushels of wheat is sold sixteen dollars' worth of soil fertility goes with it. A ton of clover hay may bring $17, but the seller is giving away eleven dollars' worth of his soil fertility in the hay. A ton of creamery butter contains about fifty cents worth of soil fertility. And when a dairy farmer buys a ton of bran the soil fertility in it, if bought in the form of commercial fertilizer, would cost $16. The same in a ton of linseed meal would cost $26 and in a ton of cottonseed meal $30. The dairy farmer sells less fertility from his farm, and furthermore, he is constantly buying it in the concentrated feeds and leguminous hays that he is required to feed. These facts must receive their proper consideration.

Much has been written about the Hosmer farm in Webster county, Missouri, which is an example of the role played by the dairy cow in building up a farm. Twenty years ago Mr. Hosmer bought a farm that had long been under cultivation. It was located on the stage line that once ran from Rolla to Springfield, and was used as a station on this line. The farm was naturally a good farm for that part of the country, but grain had been grown on it continuously for many years and fed to stage horses or sold off the farm. It would hardly produce five bushels of wheat to the acre, and a yield of fifteen bushels of corn to the acre was considered excellent.

When the farm was bought Mr. Hosmer commenced milking cows and making butter, and his son, who now has charge of the farm, still continues this. The fertility of the soil has been increased to the point where a fair season assures a yield of from 25 to 30 bushels of wheat to the acre. The yield of corn averages 60 bushels to the acres. On good years large fields have averaged 85 bushels to the acre, and one particularly favorable season a ten-acre field yielded by actual weight in round numbers 1,000 bushels of corn. Alfalfa has been grown successfully on practically every field of the farm. Mr. Hosmer has repeatedly stated that all this was made possible because they fed most of the crops grown on the farm to the dairy cow. What crops they did sell they replaced with concentrated feeds that were rich in soil fertility.

This farm is by no means the only one in the south part of Missouri where remarkable results have been achieved. N. P. Jacobsen of Seymour has a forty-acre farm on which he raises alfalfa and clover in abundance. He never gets less than 60 bushels of oats to the acre and is disappointed when this wheat does not average 30 bushels to the acre. The writer personally has seen his corn shuck out at the rate of 65 bushels to the acre when his neighbors informed him that they were getting fifteen. The reason for this is that Mr. Jacobsen keeps about twelve cows on his farm, has a silo and saves the manure produced by his cows. His neighbors have not yet learned to believe in cows.

It does not always take a long time for the effect of the dairy cow on the soil fertility to be seen. Mr. R. C. Zeller of Seymour, Mo., bought a farm within a mile of that town in

1909. He brought a herd of dairy cows with him from Iowa and established himself as a dairy farmer. The first year his corn yielded twenty bushels to the acre. The hay was practically a failure. He saved the manure and carefully put it on the soil, and in three years he had more than doubled the yield of corn and the land was producing over a ton of clover hay to the acre. This is excellent when we consider that the farm had been mistreated by continuous grain farming for more than twenty years previous to his buying it.

The value of the dairy cow does not include merely her relation to the soil fertility. The income from her produce is, of course, the principal factor by which her values must be determined. It has already been pointed out what an enormous income is produced by her in Denmark from an area less than one-fourth that of Iowa. Switzerland furnishes another example. That part of Switzerland not covered with rocks and glaciers is about equal in area to eighteen average Missouri counties. The land is not as adaptable to farming as is our Missouri Ozark region. Switzerland has a population almost as large as that of Missouri. There are not quite 800,000 dairy cows in Switzerland, which is less than the number of dairy cows in Missouri. These cows supply the entire population of the country, and in addition $26,000,000 worth of products are exported annually. Were our Missouri Ozark counties, or any other section of the southwest of equal area, to take up dairying as they have done in Switzerland, it would mean that $2,500,000 would be distributed annually in each county of that section.

We have many sections of America where the value of the cow has been clearly demonstrated. Twenty years ago Wisconsin was hardly on the map, agriculturally speaking, and now it produces more butter than any state in the union. In our own State of Missouri we have communities where the effect of dairy farming is already being strongly felt. At Macon, Mo., a creamery distributes about $90,000 annually to the farmers within driving distance of the town. A prominent banker has said that since the farmers have taken up dairying their financial condition has been immeasurably bettered, debts have been cleared and bank accounts established, and he furthermore states that so far as he can see it is all clear gain over their income previous to the time when they took up dairying.

Three years ago when a creamery was established at Mountain Grove, Mo., the amount of cream produced was practically nothing. Now the creamery is distributing $50,000 annually to the farmers around Mountain Grove. This is quite an item when we consider that in that locality the labor is practically all the additional investment the farmers have made in order to produce the cream. It is not out of place to mention here that this same creamery is responsible for the statement that the production of cream in the Missouri Ozark region is increasing at the rate of 150 per cent a year.

Here again it might be interesting to note from the purely financial point of view what certain individuals have accomplished. Mr. John Hosmer, whose farm has already been referred to because of the wonderful increase in its soil fertility, furnishes a still more interesting story about what income can be obtained from a large and properly managed dairy farm. His farm contains 670 acres. He milks 100 cows. Butter is made on the farm so the skim milk and buttermilk is available for hog feeding. Mr. John Hosmer, son of the man who started the farm, is as thorough a business man as was his father. He takes an annual invoice and knows accurately what his whole farm as well as his individual cows are doing. He keeps no cows that do not produce on the average a pound of butter a day. At the end of his last fiscal year he cleared above all expenses a little over $7,000. One interesting thing about Mr. Hosmer is that he is an influence in his community. Practically all of his neighbors are dairying, and needless to say, are dairying successfully. He has supplied breeding animals to hundreds of farmers in that locality.

Several years ago a relatively poor man went to Billings, Mo., from St. Louis. He was driven to the country because of poor health. He bought a hillside farm and a few cows. Inside of five years he has paid for the farm, increased the production of his cows to an average of 300 pounds of fat a year and has grown five tons of alfalfa to the acre. All of it has been due to the influence of the dairy cow.

According to the United States census figures there are 850,000 dairy cows in Missouri. Basing an estimate of the milk and cream used on the farms, the per capita consumption in the cities and giving the skim milk a value of 20 per hundredweight, which is conservative and fair, we make the total value of dairy products of Missouri in round numbers $32,000,000. This compares very favorably with the $33,000,000 value of the poultry products of the State estimated on the same basis. We hear a great deal about the wonderful orchards of our State, yet all the horticultural products, including all vegetables other than potatoes, are valued at only $18,000,000. It might be well, however, to consider a few possibilities for bettering our showing, basing our consideration on the following facts:

The dairy department of the University of Missouri has several farmers scattered over Missouri whom it is keeping in close touch with and aiding in the development of a dairy herd and farm. These men are called dairy co-operators. The results obtained on one of these farms are extremely interesting.

In 1909 a student in the University from Lawrence county, who was specializing in dairy husbandry, was called home because of permanent injury suffered by his father. The farm was at that time an average dairy farm. A grade Jersey bull was at the head of the herd, which consisted of about twenty cows, all grade Jerseys or Shorthorns. When this young man went home he took three things on which have been based his success. The first was a pure-bred Jersey bull from the University herd. The second was a pair of milk scales, and the third was a Babcock tester. His father thought they had a pretty respectable herd, but in six months they had sold eight of the twenty cows because they were proved unprofitable. Here and there he bought cows to replace these, trying to get good milk producers. He used the bull on the cows he had selected and kept because of the record for milk production they had made. At the end of the first year of keeping records it was found that the cows averaged 180 pounds of butter for the year. Three years later it was found that the herd averaged 300 pounds of butter for the year. This remarkable record was all made under very ordinary conditions. The scales and tester and pure-bred bull with intelligent feeding will do the same thing for any other farmer in our great southwest.

If every farmer in Missouri would increase the production of his herd from the average annual production of 140 pounds of butter to 300 pounds, instead of Missouri supporting 850,000 cows in order to produce $32,000,000 worth of dairy products, we could dispose of 454,000, keeping but 396,000, which would do the work of the 850,000 now kept. Or if we should keep the 850,000 cows with their annual production increased to

300 pounds of butter a year, and this increase sold at thirty cents a pound, it would bring our farmers $40,000,000 annually in excess of what thy now receive. *This in three years would pay off the mortgaged indebtedness of our Missouri farmers.*

These statements are made because they are based on fact. There is no reason why in time every farmer in Missouri should not increase the annual production of his herd as did J. R. White & Son. There seems to be every reason to believe that a large number of them are now attempting to do this.

Inquiries come to the dairy department of the University at the rate of more than one each day for bulls or bull calves to be used on scrub herds. Many other inquiries come for breeding stock of all kinds. It is interesting to note that farmers are commencing to discriminate, and they insist that the breeding animals they buy come from a strain that has a record for production behind it. There is a demand for good cows as well as for bulls.

In this connection it might be well to mention the interesting experience of Mr. Marshall Gordon, president of the State Dairy Association. Mr. Gordon is a Holstein breeder and engaged in the whole milk business at Columbia. He sold in two years $7,500 worth of surplus stock. This figure does not include the culls, but the surplus cows in milk, he having a herd of over 150 head. It might be added that he advertised none. Buyers sought him because they knew his records were accurate and dependable and that they would receive no culls.

The dairy cow needs no defense. There is no argument better than that of her past and present performance that will make for her a place in the permanent agriculture that must be established in this country. The breeders of pure dairy cattle can play an important part in bringing about this permanent agriculture, and it is to be hoped that they will play their part well.

DEVELOPMENT OF THE DAIRY INDUSTRY.

(E. G. Bennett, State Dairy Commissioner.)

Through realizing the necessity of putting back on the soil that which is taken from it is, no doubt, the reason why many farmers went to dairying in most of our dairy sections. Seeing profitable results obtained by a neighbor had much to do with the development of this industry. As more farmers in a community became interested in the cow, organizations were established for the purpose of gaining practical information. Through these organizations the interest in the cow increases until the successful and persevering dairyman, through the splendid bulletins issued by our agricultural colleges and State Board of Agriculture, and the reading of good dairy and farm literature, becomes enthusiastic. We find him attending county and state fairs and all the institute meetings available, seeking information that will help increase the output of his herd and studying closely the economic questions connected with his work.

The department I represent for the State of Missouri is particularly interested in the development of this industry within its boundaries. We know of the many, many acres of unimproved land lying south of the Missouri river and extending to the border of the State. Nature has especially fitted this land for dairying. Blue grass and forage crops grow in abundance, while the pure spring water and splendid climate make a paradise for the cow. This land can be bought reasonably, in most cases cheap, and a state-wide move should be made to place people on these idle acres who will become interested in dairying, the business for which the country is best adapted.

The bankers and merchants in all the smaller towns through the State should familiarize themselves, not only with the opportunities offered in this particular work in their communities, but for the financial benefits to be derived, for while the question of education is being agitated, we must not overlook the apparently neglected question of educating the banker and the merchant in all matters that will add to the betterment and upbuilding of the community in which he lives.

In dairy sections bankers loan money to farmers with which to buy cows, taking a mortgage on the cows and allowing him to pay for the cows on installments, taking 25 per cent of her proceeds until the debt is liquidated. They are also offering to loan money to a stipulated number of farmers for a year without interest, if they will build silos. All the banker asks is that the farmer own 80 acres of unincumbered land and lives in the county. Merchants build and equip creameries, turn them over to the farmers, and after paying the interest and depreciation the creamery patrons divide the accrued profits and in a few years the patrons buy the creamery. A few weeks ago a South Missouri banker became stricken with milk fever during a dairy meeting I was holding and at the close of the meeting announced that his bank stood ready to advance $10,000 to the farmers of his community with which to buy cows on the basis I just mentioned.

Col. W. H. Phelps of Carthage recently, at several different dairy meetings, stated he would give to six farmers living in the townships in which he had spoken a pure-bred bull calf for a community sire. This sort of encouragement will develop dairying. And as the bull is half the herd, no doubt Col. Phelps will have several customers.

When the banker and the merchant of Missouri closely investigate dairying from a business standpoint they will find they can heartily endorse the milking of more cows to their farmer customers. It is a well-known fact that dairy sections of the country are noted for the prosperity of their people. Their splendid homes, spacious barns and well-kept farms all point to success.

The business man knows that the farmers in his community who milk cows for profit, and that is the man who is dairying on business principles, is paying, or can pay, cash for what he buys. He is not the man who contemplates harvesting 20 bushels of wheat per acre or 60 to 75 bushels of corn per acre, and borrows money and asks for credit rating to the extent of his anticipations, and when harvest time comes finds 8 to 10 bushels of wheat per acre and 20 to 30 bushels of corn per acre on account of drouth, chinch bugs and other causes, and as a result is compelled to ask for extension on his obligations.

The dairy department of this State has plans under way to organize county dairy associations throughout the State, and any community contemplating the organization of an association, or of starting a creamery or cheese factory, can have assistance from this department if they will address the State Dairy Commissioner, Columbia, Mo.

There are many reasons why these county dairy associations should be organized. They get results. They are the most potent factors in developing this work. Regular meetings are held at various points throughout the counties. At these meetings local dairymen and others give talks and read papers on their experience. Everything concerning the cow is discussed and much practical information is gained. Through these associations members will know the real value of their stock and buyers will be found for their surplus.

The dairy industry in Missouri has been greatly retarded through the creamery promoter; his victims are many and well distributed over the State. Creamery companies were organized and the promoter would build and equip the creamery for $5,000 to $6,000 when $2,500 to $3,000 would have been a good price for it. Little attention was paid to the number of cows available for the creamery support, and the creamery failed for lack of support and proper management.

The creamery question can be solved through the county association, and in any community where 500 or 600 cows are available for the support of a creamery it will pay.

We want to tell you of a recent trip through the dairy section of Wisconsin and the development of the dairy industry in that state in the past 25 years.

The section devoted to dairying will take in but little more than the southern half of the state, but they produce more than 48 per cent of all the cheese manufactured in the entire United States, and their dairy products amount to $100,000,000 a year. They have more than 1,000 creameries and about 2,000 cheese factories. Ninety per cent of the farmers in the dairy section of Wisconsin milk cows for profit and 75 per cent have silos. The motto for all dairymen in that section is, "feeding, weeding and breeding." The farmer grows his grasses and grain and feeds it to his stock, not only making his profit from feeding what he raises, but replenishes and fertilizes the soil at the same time. He feeds his cows liberally and does not hestitate to buy any milk-producing feed he does not raise. Large, substantial barns give necessary protection to their cows during severe weather.

Almost every farmer has his milk scales or belongs to a cow-testing association, and knows exactly the number of pounds of milk each cow gives. Many of them have their own testers and test the quality of their milk, knowing exactly what each cow is producing in butter fat and whether or not she is paying. Where cow-testing associations are established one man is hired to do the testing for all members of the associations. He visits the herds owned by the members each month and makes a test of the cows for the owners. This has increased the interest until it is nothing unusual to find two or three cows in a herd undergoing a register of merit under practical conditions.

These methods and conditions have resulted in bringing up the standard of cows to a point that most of them make a net profit each year of $85 to $100 from the sale of cream to creameries. The increase of the herd, value of skim milk and value of manure paying for feed and labor on cows. When a cow is found that is not paying a reasonable profit she is immediately disposed of.

Many have pure bred and registered herds. They all believe that the bull is half the herd, and those who have not purebred herds at least have good registered bulls and are particular to know that they come from splendid cows and are sired by bulls of real merit. They realize that there is a vast difference between breeding intelligently and breeding in a haphazard way to any old thing, so it's handy. They believe in carefully selecting animals for breeding, thereby reducing the likelihood of defects rather than intensifying them.

So, after many years of constant dairying in that state, the dairymen are more convinced today than ever before that their motto of "feeding, weeding and breeding" is the key to the success of this industry.

Thirty-five years ago the farmers of Wisconsin were not making the dairy industry a business. They were raising crops and hauling them to market. In the course of time they realized their soil was becoming depleted and in many cases their farms would not return the seed that was sowed on them. Farm lands were sacrificed and many farmers left the country. Those who remained were forced to turn their attention to new methods, something that would prove remunerative and at the same time replenish the soil. The dairy industry was adopted, and for the past thirty years this industry has advanced by leaps and bounds until today Wisconsin leads every state in the Union in the output of dairy products.

THE DAIRY COW GIVEN FIRST PLACE.

As more farmers became engaged in dairying they soon realized they were producing more dairy products than could be profitably disposed of in their local markets, and through the establishing of creameries and cheese factories, where they could concentrate or centralize their milk and cream, they found a ready market for their surplus. The industry grew steadily. The dairy cow was given first place over all the farm animals, and instead of selling heifer calves for veal they were raised to maturity, and if they met the requirements they were made a part of the herd. The desire to own a dairy herd kept increasing, because the cow fully demonstrated her worth, both by making her owner money through her commercial products and the building up of his land.

As time went on the desire for more and better dairy products increased, and communities began to talk local creameries. Realizing that if they could keep the raw material in proper condition a better finished product would result, local creameries and cheese factories were established and were successful. Many of them were owned, operated and managed by the creamery and cheese factory patrons, or those selling milk and cream to the factories, and were called co-operative. Most of these factories in Wisconsin and Minnesota today are co-operative and many of them have been in constant operation for years, proving conclusively that community co-operation is a success.

HOW THE CREAMERY IS STARTED.

A co-operative creamery is one where most, if not all, the creamery patrons own stock in the creamery and share equally in all the accrued profits.

After deciding a creamery is needed in a community a meeting is called to determine whether or not there are sufficient cows in the neighborhood to sustain a creamery. If it is decided to start a creamery the amount of capital stock is agreed upon and the stock offered for sale at a price depending upon the number of patrons and prospective shareholders. After the stock is all subscribed a meeting is called for the purpose of electing a board of directors of five or seven members and a secretary or manager. Great care is exercised in selecting these officers as the success of the enterprise is entirely in their hands. So far as possible a director is selected from each of the different sections in which the stockholders live, in order to give all stockholders a voice through their respective directors. These directors are generally representative men in their neighborhood with more than ordinary business and executive ability. There are many co-operative creameries that have been successfully operated for years whose directors meet but once annually, so thorough is their organization and so complete are the monthly statements issued by the secretary. When a meeting of the board is called each director is allowed his expenses and $2 per day during the session.

THE MANAGER'S DUTY.

The only one drawing a salary other than the operative force at the creamery is the secretary. His salary depends on the amount of business done by the creamery and the time required to attend to his duties. It is the secretary's duty to keep a true record of all transactions pertaining to the creamery and render his report to the board of directors at their regular meetings. It is also his duty to find a market for the product of the factory and secure the best prices obtainable. A market is usually found through one of the responsible market houses in the cities and the entire output is contracted for at a price based on New York or Chicago quotations on the day the shipment arrives. So long as the product is of a uniform good quality there is no trouble in disposing of the output at entirely satisfactory prices.

Wisconsin and Minnesota today are disposing of the output at entirely satisfactory prices.

CREAM HAULERS GET GOOD PAY.

Bids are submitted by parties living in different directions from the creamery, offering to deliver all the cream in their section or on their route (the boundaries of the different routes are determined by the board of directors) at so much per butter-fat pound—that is, he receives the price agreed upon (usually about one cent) per pound for all the butter fat contained in the cream he hauls. There is keen rivalry for this work in some sections, as a good cream route often pays $1,800 to $2,000 per year. In Wisconsin the cream wagons cover their routes three times a week in the summer and twice in the winter. As every patron is financially interested in the welfare of the creamery they are very careful with their cream, seeing that it is properly cooled and cared for after separating until the cream wagon comes. The driver weighs and samples the cream gathered from each patron. After this it is poured into large pans in the wagon and the empty can returned to the patron. The sample and weights are carefully taken, as the entire load is again weighed at the creamery and a composite test is made, which must balance with the tests and weights turned in by the cream wagons. The cream haulers are paid monthly, their wages being added to the general expense fund. When the butter is ready to be taken from the churn it is put in 60-pound tubs, when it is ready for the market, being put in the storage room, and when a sufficient amount has accumulated it is shipped to market in refrigerator cars. As contracts are usually made for butter on the cars at stations where the creamery is located, there is no further expense to the creamery for the butter shipped, less the shrinkage that occurs in the storage room and in transit, which does not amount to a great deal. All of the returns for sales come in drafts and are deposited by the secretary of the creamery. At the end of each month the operating expenses are deducted from the total sales and the entire balance, including all the profits, is prorated among all the stockholders or patrons. The price per pound is found by dividing the total amount received for butter, less operating expenses, by the total number of pounds of butter fat received at the creamery each month.

A co-operative creamery patron was asked why he favored the co-operative plan of disposing of his cream. He said:

"Every good butter maker can get 20 per cent overrun. This is 120 pounds of butter made from 100 pounds of butter fat. Then we do not have to pay 1½ to 2 cents per pound commission to a cream buyer and we do not have to pay 1 to 1½ cents per pound to express companies for shipping, to say nothing of the drayage. In addition to all of this he is aiding an enterprise in which he is interested and helping to upbuild his own community. Each stockholder is paid 5 per cent interest on his stock, interest being deducted from sales of butter. And should a stockholder leave the community the creamery buys his stock, holding it as treasury stock until disposed of to a new patron. Very little stock accumulates, however, as there is usually a demand for it. Each stockholder has but one vote, regardless of the number of shares he holds."

The following example will show why the patron likes the co-operative plan: Cream buyers in most localities pay 3 to 4 cents under Elgin or Chicago quotations for butter fat. If Elgin is quoted at 30 cents the cream seller receives 26 to 27 cents per pound. Suppose he is a patron of a co-operative creamery where, say 1,000 pounds of butter fat, is received daily for 26 days each month, making a total of 26,000 pounds of butter fat per month. Now add 20 per cent overrun, 5,200 pounds, making 31,200 pounds of finished butter. Elgin price is received for the butter if of good quality, or 30 cents per pound, $9,360. Now deduct the operating expenses approximately as follows: $100 per month for butter maker, $60 per month for secretary, $70 per month for two helpers, $15 per month for interest on investment, $30 per month for fuel, $110 per month for supplies, $25 per month for incidentals, $260 per month for hauling cream. Total monthly expense, $670. Six hundred and seventy dollars expenses deducted from $9,360 for butter sold leaves $8,690 net butter sales. This divided by 26,000, the number of pounds of butter fat, gives .3342 the co-operative patron gets, almost 33½ cents per pound for his butter fat, or 6½ cents per pound more than the patron of the cream buyer. If he is milking 15 cows, each averaging one pound of butter fat per day, the difference in the profits between a co-operative patron and a cream buyer's patron is easily calculated.

It is the duty of the dairy commissioner to develop the dairy industry in this State, and we will be glad to hear from any community where the establishment of a creamery or cheese factory is contemplated and will assist in its organization. This department would especially warn communities where creameries or cheese factories are contemplated against promoters of these factories, as much damage has been done by promoters organizing companies in sections where there is not a sufficient number of cows to maintain a creamery, their object being to sell the creamery outfit and erect the building at prices that will make them large profits.

Cattle, Sheep and Swine Feeders' Association.

OFFICERS.

President—Dr. A. W. Nelson, Bunceton.
First Vice-President—C. E. Yancey, Liberty.
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Secretary-Treasurer—H. O. Allison, Columbia.

ADDRESS OF THE PRESIDENT.

(S. P. Houston, Malta Bend, Mo.)

S. P. Houston.

It has been said that the romance of food is the romance of all romances and that "the history of a ham sandwich is the history of the human race."

The prayer of mankind since the cradle of the race has been, "Give us this day our daily bread," but modern civilization, with its combined wisdom and experience, confirms us in the belief that "Man cannot live by bread alone." Hence the problems of the farms and the feed lots are becoming more and more the problems of all the people. We shall not be able to relate to you, as a fable, the tale of the years that are gone, nor will we attempt to weave a story of the successes or failures in the past, but rather should we be mindful of our mistakes and apprehensive of what the future may have in store for us.

The legends of the ancients was the story of their shepherd kings, and profane history tells us that Abraham was the cattle king of his generation. Hence the aristocracy and antiquity of our calling through all the ages gives us just cause for the pride we possess.

Since the dawn of creation man's first need was food, and the lack of it has led him to conquest in every field. When his wants were supplied in plenteous quantities and at fair exchange he had little else to disturb the even tenor of his way, but when the conditions imposed in supplying his primitive needs seemed burdensome or unfair, he then began to inquire the cause and seek the remedy. So out of mankind's first necessity we enjoy the splendid civilization of today. And through it all we can discern a serene and beautiful Providence which has shaped the affairs of man. It has given to every race and generation its own talent and has ordained that only those who are able to combine the virtues of all shall endure.

In the general readjustment of the affairs of the world today we find that the supply of meat-producing animals is growing lamentably less each year, and this through no malicious intent of the individual producer to boost the price to the consumer. Rather is it the result of a long train of events beginning back a decade or two and leading up to the present time. Close observers of conditions surrounding the live stock industry, especially that phase of it which we represent, are inclined to take a pessimistic view as to the future. The change in our country from a creditor to a debtor nation as regards meat production is becoming daily more and more a matter of stern reality. It may interest some of you to know that in our own State our herds have suffered a significant depletion. In 1890 more than two and one-half million cattle were on our pastures or in the feed lots. The same number of hogs were here to assist in paying off our mortgages, but today one million less cattle and one-half million less hogs are here to help raise the income tax. Government figures indicate that there are two million less cattle, five million less hogs and two and one-half million less sheep in all of the states than there were the preceding year. This alone tells the story, and when we consider the rapid increase in population the question naturally arises, "What are we going to do about it?" The suggestions made for replenishing our depleted herds are almost as numerous and entirely as vague as are the provisions of the income tax or the regional banking law. No two are agreed on the same proposition of replenishment. On the other hand, the vast army of consumers are of one opinion, that they must buy cheaper meats. The daily press is filled with unreasonable tales of the fabulous profits of the farmer and the stockman. Those who have stayed in the game know that the winnings are indeed modest and that we possess no magician's art whereby we can supply the demand without the prospect of adequate compensation.

There are many who are rash enough to predict that the day of cheap meat for the American people is past. The discrepancies between feed and market values, careless breeding and marketing, larger farm areas and smaller ranges, widespread disease among swine, serious drouths in the sheep producing states, together with adverse legislation, are some of the factors which have contributed to that impression. You will pardon the digression here, but it seems to me that any business or occupation which is so fundamental to the happiness and prosperity of all the people ought not to be made the goat of modern legislation. The fact of hostile legislation will do more to accentuate the shortage of our live stock than all the drouths and

Secret, grand champion steer, Missouri State Fair, 1913. Bred and exhibited by University of Missouri.

pestilences of the past. It will prolong the season of scarcity and at the same time add an extra hazard to the business of the producer without compensating that class most intended to help.

The wisdom of placing live animals and meats upon the free list by virtue of our latest tariff laws will be sorely tried, but there are those who are unpatriotic enough to predict that the worm will turn and that eventually prices will be higher rather than lower. However this may be, it is within the memory of all that when hides were placed upon the free list the manufacturers promised cheaper shoes and cheaper leather goods of all kinds; but that elusive day is still to come, while another costly experiment is to be tried. In matters of legislation, it seems to me that we ought not to lose sight of the fact that a business which means so much to the world should be rendered sufficiently profitable and attractive that we may be able to stay by it, and when our tenantry is ended we can pass it on to future generations with its increment of food and possibilities of happiness to bless mankind.

If normal conditions prevailed and the American producer were permitted to enjoy the privilege of home markets undisturbed by foreign competition, no doubt the year before us would be abundantly prosperous. But with conditions confronting us it is unwise to discount the situation, and I doubt not but that we will have to cudgel our brains to devise some way to successfully meet the changes that have been wrought.

Much speculation is being indulged and volumes of gratuitous advice given as to how we should meet the problems of our existence in this new year. One fact is quite evident. If we are to successfully compete with the beef of Argentine, the mutton of Australia and the bacon from China we will need to utilize the cheaper feedstuffs upon our farms. Corn alone is the most extravagant feed in the world, while silage, cowpeas, clover hay and alfalfa, with a moderate amount of corn and cottonseed meal, will go a long way towards reducing the cost of production. The crime of our age is the waste of high-priced feeds by getting indifferent results. It is said that we feed the machine too much fuel for the results attained. It takes 400 tons of coal to drive an ocean liner 20 knots per hour and 200 tons to make one additional knot. So with the machine which we feed, we should give enough fuel and of the right kind to get the maximum of gain at the minimum cost.

It pays to have good cattle to eat good grass.

The notion that high-priced land and the cattle industry do not go well together is fast being proven a fallacy, and the supply for the future must no doubt be produced upon land that is susceptible of intense farming. The effect that free meats will have upon our business this year is somewhat problematical, but it is a safe guess that a business which increased 600 per cent in four months will hardly make a less showing in the next twelve. The old adage that "a good beginning makes a bad ending" was fully exemplified in the past year, and in the closing months the feeders' profits dwindled away almost to the vanishing point. The lesson of the past ought not to be soon forgotten. They emphasize the fact that we cannot place too much reliance in the weather bureau, nor give too much credence to the advice of the fellows who are haunted with the specter of a famine, for first one thing and then another happens to jar our faith and shrink the profits. The man who has stayed in the game while his neighbors were getting out ought to be rewarded for his nerve this year. Alarmists are again working their imagination overtime lest the future supply of cattle will be exhausted, but my notion is that when any business becomes reasonably certain of safe and easy profits it will become sufficiently attractive that it will stimulate greater production. I see no reason why the rule should not apply in the live stock industry.

The past season has done much to decrease home supplies. Deficient rainfall over a large area, short pastures, a short forage crop, high-priced corn and an indifferent quality have no doubt caused many of our number to have "cold feet." The west will offer but scant competition in the early months, neither will the corn belt states be able to offer their usual supply to relieve the situation. So if the year does not bring better prices than now prevail you may put me down as a bad guesser.

As to the situation ultimately, it seems to me that one of two things is going to happen. We must increase the herds of our country upon the small farms and consume the waste of the strictly agricultural communities, converting it into meat, or else we must be content to draw upon foreign countries for our beef supplies. Under the first proposition we can not hope for any appreciable increase for a year or two; rather will it be five years before the bovine population increases to the extent that it will be a depressing factor in our home market. On the other hand, if we give up our markets to the influx of foreign beef and confine our efforts to a larger agriculture, then sooner than we think a decadent period will halt the prosperity of the country. Under such a condition the time will not be far distant when the cattle industry would fall into decay, our soil would become

This feeder believes in making his hogs heavy.

impoverished and agricultural and industrial interests would suffer a like degree of depression. So we get back to the original proposition, "Man can not live by bread alone." Rather is that race making the greatest progress in the affairs of the world whose individuals live in part upon the rich red meat of the animal.

If the business activity of the country depends upon the prosperity of the farmer and the farmer-stockman, as our statesmen would flatter us to believe, then it is past my comprehension that your business and mine should be offered as a sacrifice to those who toil not. In the conduct of our business no monopoly is possible, for no combine would permit us to membership because we display too little the quality of adhesiveness. Yet because we have been unable to make our petitions reach the throne of legislative action, by reason of neglected opportunities, we must permit to sit at the feast those who will not share with us any of the responsibilities of government, who will

A Missouri feeder and one of his smooth-as-an-egg steers weighing a ton.

not pay one farthing of our taxes, nor support our institutions or perform any of the duties of citizenship.

The live stock industry will not fall into decay although it may suffer temporary discouragements by reason of unfair preference. The natural instinct of the human family is self-preservation and the pursuits of the farmer and stockman must not be minimized, for the primal needs of mankind is daily growing greater and the teeming, hungry millions at the centers of population must know that at best the world is but thirty days betwixt feast and famine.

And thus our romance ends. In the experience of a present reality we are impressed with the uncertainty of conditions which make for gain or loss. A scant rainfall and short crops should impel us to study the art of conservation, both of the soil and the products of the soil. Greater efficiency should be our aim, more economical production and less waste, while common prudence ought to teach us that the storing up of the surplus feedstuffs during a fat year against an evil day is the only sinking fund that will tide us over the lean years or beat money in the bank.

If the problems which confront us look ominous and forbidding, let us not grow weary and fall by the wayside; rather let us face them with a buoyant spirit. Chastened though we may be, let us be more prudent and self-reliant, cheerfully awaiting the dawn of another and a better day.

In a Missouri feed lot.

A FEW POINTERS ON FEEDING SHEEP.

(J. H. Starr, Centralia, Mo. Mr. Starr feeds several thousand sheep each year and makes many market tops.)

There is no kind of stock fed for market that is as little understood as sheep by the average farmer. While there have been great successes in feeding sheep there have been as great failures. The latter are usually attributed to lack of knowledge, careless and indifferent handling, crowding, the wrong amount of feed or feed that is not of proper kinds. I wish to make it plain that there is no kind of stock that will fatten as fast and respond to good treatment as a sheep, and, on the other hand, there is no stock that will go to pieces as fast as sheep under bad treatment. Consequently, to be successful it is a vital matter that they receive regular and careful feeding.

Sheep will thrive and do well on different kinds of feed; in fact, they gain the most when fed various kinds of feed—silage, clover hay, alfalfa, oats, corn, wheat, cottonseed meal and linseed meal. They should not be fed too much at one time, but fed often in amounts that will keep the feed fresh and clean. And the water supply should be ample—good, clear, fresh water. It is a mistaken idea that sheep do not require much water. When your sheep are drinking lots of water it is a good sign that they are going right, but when they are not getting plenty of water you need not look for satisfactory gains. Water troughs 16 feet long, 18 inches wide and 12 inches deep, fed by a supply tank, are very satisfactory; or, if you are fortunate enough to have it, a spring or running water is fine. Sheep like fresh running water.

There are two plans for feeding sheep and lambs. One plan is for early market, which is December and January, and the other is called the late market, from February until April. In feeding for the early market you should get your lambs from September 1st to October 15th. If you have some grass or cowpeas or can turn the sheep in the cornfields and let them eat the blades and roughage it is fine, but it is very important to give them a little grain as soon as you receive them. Shelled oats and a little corn with it make good feed. The reason of this is it takes the place of the mother's milk. As these lambs are weaned when loaded at the range points and the long trip in shipping is hard on them, they need extra care and nourishing food when they first arrive.

As winter approaches and green feed disappears get your lambs on grain by increasing the feed gradually each day so that the stronger kind of feed will not hurt or kill them. When you have them up on full feed my experience is that it is best to close them up in close lots and give them the feed in troughs; don't allow them to travel out over the fields. They gain and fatten much faster closed up. Make the troughs out of inch lumber with 2x4's for legs, with 6-inch fencing plank for sides and ends, and let the 2x4's extend up high enough for a top railing to keep lambs out of troughs. These troughs may be made twelve or sixteen feet long and set in long strings, with an occasional opening for sheep to pass. Such troughs are good for any kind of feed—silage, hay or grain.

It is very essential to salt your sheep. I prefer to have a salt trough and keep salt in it at all times. In this case they get salt when they want it. Some men have salt days, two or three times per week, but this causes crowding and jamming when the salt is put in and it may be that some do not get any at all.

In feeding for the late market you need not get your lambs before the last of November or up to January 1st, and carry them along until February on a little oats and corn with plenty of roughage, and finish them for market in the same manner of feeding as with the early lambs. If you wish to run late into April or May, you may clip them by March 1st if you have a warm barn or shed. If you have grass in April allow them to run on it, but keep up the grain if you want to make them good, fat market toppers. I wish to impress you and make it emphatic that the success and profit of sheep feeding is in making them fat and selling at the highest price on the market. The man that does this will make a success, love the business and want to do more of it.

In Missouri we usually feed lambs and yearlings mostly of the Mexican type, but good western lambs are all right when you do not get them too heavy to start with. Mexicans are hardy, good gainers and very desirable in weights and quality for the killers. My experience is that it pays better to feed lambs than yearlings, as the markets are demanding more lambs than older sheep and the gains are greater and prices higher for the gains you put on.

A good many farmers do not feed sheep for lack of experience in buying and handling. I can safely say that any good farmer who handles his cattle and hogs well will make a successful sheep feeder. I have in mind a Saline county farmer who had never owned a sheep yet last year fed 1,200 lambs. He fed them fifty-five days. They gained twelve pounds per head from range-point weight to market weights. They topped the market each day they were there. He lost only two lambs and did not have a "tail end"—all sold straight. This lot of lambs were fed in the following manner: When they arrived the farmer filled them up well on clover hay, then turned them on a few acres of cowpeas and gave them some shelled oats, a little corn and silage in the lots in troughs. As the cowpeas disappeared he increased the silage, decreased the clover hay, increased the corn and added one-fourth pound of cottonseed meal per head per day. He made the change gradually and got them up to one and one-half pounds of silage, one pound of corn and one-fourth pound of cottonseed meal, with a very little clover hay and oats. The oats and hay can be decreased and taken off entirely at the last end of the feed when the lambs are eating plenty of silage.

I am a great advocate of silage. When fed with a balanced ration it cheapens cost of feed and produces the best of results. I will give you the figures and results on 2,700 Mexican lambs fed in Saline county last winter. This was a partnership deal, so all feed was purchased and a strict account kept on everything. These lambs were fed in two bunches—1,200 in one lot and 1,500 in the other. They were fed for an average of 51 days and made a gain of 12 pounds over range-point weights to market weights. They not only topped the market, but also sold at the top each day, which shows that they were strictly good and satisfactory to the buyers. When these lambs were received they were filled up well on clover hay. They did not have any shelled oats or cowpeas, but were started on silage and a little corn and wheat. (Just here I will say that there is no better kind of grain for sheep than wheat.) We also added one-fourth pound of cottonseed meal. We gradually increased the silage and corn until we got them up to one and one-half pounds of silage, one pound of corn, one-fourth pound of wheat and one-fourth pound of cottonseed meal. Then we decreased the hay and later took it off entirely. This is when the silage made the saving in cost of feed, by reducing the amount of corn one-half and all the hay—the two most expensive feeds last year. We bought the silage at $5 per ton, weighed out of silo when fed. This was good corn silage. Corn cost 73½ cents per bushel, wheat 72 cents per bushel, cottonseed meal $30 per ton and clover hay $13.50 per ton. On 2,700 lambs fed 51 days this meant a saving of $1,377. This feeding was done in the open lots, some very inclement weather and muddy yards. In fact, it was the worst weather we have experienced in several years' feeding, all of which goes to prove the value of silage as a saving of cost and as a fat producer when balanced with other feeds. It also explodes the idea that silage-fed stock does not kill well. As I said before, these lambs sold at the top of market and higher every day they were on market.

There is another reason why more farmers should feed sheep: that is for fertilizing. They will enrich land more than any other kind of stock. I will say in conclusion that it is to the interest of every farmer to investigate and study the sheep-feeding proposition. Missouri needs to feed more sheep. We have at St. Louis one of the best and highest markets in the country for good, fat sheep and this territory is not near supplying their needs. You can depend upon a good market close at home.

THE FARMER AND THE PACKER.

(Judge William H. Wallace, Kansas City, Mo.)

I came to attend Farmers' Week to learn. About all I have accumulated in thirty years in the practice of law is in a farm in Jackson county, which I operate myself. I was raised on a farm, but I feel that there is much for me to learn, and I have learned during the past few days.

Hour after hour I have listened intently to splendid addresses devoted to the proper methods of raising corn, wheat, alfalfa, cattle, hogs, sheep and so on. All I have heard has been splendid and instructive. The speeches have all related to the proper methods of production.

With your kind indulgence I desire for a few moments to make a sharp digression to what I will denominate "the other end of the line," namely, the selling end. The question I ask is, "Does the farmer receive what he deserves when he comes to sell?" Let us eliminate everything else and look at the conditions at the various stock markets in our country and see. I call your attention specifically to the great stock market at Kansas City. I have been a small seller at this market for more than fifteen years and, I believe, understand it fairly well.

When the farmer walks into the great stock exchange building at Kansas City he is in a structure every brick of which belongs to a packing house company. All the commission men in this great building are dependent upon the packers (for they are all in one great combination), as to what offices they shall occupy and how much they shall pay. When the farmer goes out into our great stockyards he goes where every lot and alley and plank belongs to the packers. They charge him what they please for yardage. They sell him hay and corn for his cattle and hogs, and charge what they please—always a most exorbitant price. He can buy food for his stock nowhere else. When he comes to sell, if he has fat cattle he can sell them only to these packers. They claim that they compete with one another, but they do not. They bid below a certain price agreed upon but never above it. The commission men who sell the farmers' beeves are afraid of these packers because if they offend them they will not buy from them, and there are no others, as a rule, to whom the beeves can be sold.

I call your attention now to an infamy of infamies. I know that I am telling the truth, not only from observation, but from sworn testimony in a recent case I tried. A large number of commission men were witnesses in the case I am referring to, and every one of them stated on the stand that the custom I am about to refer to existed. The custom is this: If a farmer does not like the price offered for his beeves in Kansas City and concludes he will ship to Omaha, St. Joseph, Chicago or St. Louis, then the packers invariably "wire on him," as they term it; that is, they wire to their associates and representatives of the great packing houses in the markets I have named, or rather to the one to which the farmer is shipping, telling them exactly what the bid or bids at Kansas City have been, with the understanding growing out of a conspiracy between them that the farmer is to receive nothing more than he was bid at Kansas City. If you can imagine any worse species of dishonesty and rascality than this let fancy take wings at once. This act of wiring ought to be made a felony by both State and United States statutes, and it ought to be punishable, not with fine, but with punishment in the penitentiary. I defy any man to show me the difference in morals between stealing the farmers' beeves outright and wiring on him so that he will not be able to obtain the honest market price for them.

But I have not yet called your attention to the principal crime committed in this custom of "wiring on the farmer" when he ships to another market. You can readily see what does occur at Kansas City. It compels the farmer to sell there and there only. It prevents Omaha, St. Joseph, Kansas City, St. Louis and Chicago from competing with one another, which the honest laws of trade require that they should do. The deliberate purpose of these packers in this "wiring" process is to destroy competition between the great stock markets in the United States, and they accomplish their nefarious purpose. Surely this ought to be a felony punishable only with the penitentiary, for these packers, with their millions, care but little about fines.

I call your attention to another crime constantly committed by the packers. They are deliberately, by reason of being members of a common trust, making the market difference so small between the price of feeders and the price of beeves that they are practically putting the feeder out of business. Recently at the stockyards a feeder from Illinois told me he had just paid $7.65 per hundred for feeders. The commission man who bought the feeders for him said that that very day feeders of the same kind made fat sold only for $8.00. You can readily see that no man can feed cattle on a margin of 35 cents. We hear a great deal about the high cost of meat. People fail to realize that a farmer on ground worth $100 an acre cannot raise corn and feed it to cattle for which he must pay $7.65 a hundred and then sell for $8.00 or $8.25. The condition I am depicting would not be so bad if the consumer received any benefit from it. In the case I am referring to a commission man, who tremendously favored the packing houses, was asked by myself how he accounted for the fact that about a month before that time beeves on foot had dropped $1.00 on the hundred, and had continuously sold for $1.00 less, while the consumer was paying at the meat market precisely what he paid before the drop in cattle? The commission man answered by saying that the butcher, as we used to call him, or retail meat man, as we call him now, was to blame for this. He said these men held the price up, but we all know this is not the truth. There are thousands of these small meat sellers. They are not in any great combination, and it is absurd to say that they would continue to sell meat just as high if the packers would sell it to them $1.00 less after the fall in the price of cattle. The packers, by reason of being in a trust, commit this and other crimes against our trust laws, and every commission man knows I am telling the truth.

I now call your attention to another fact which was overwhelmingly proven in the case I am referring to, namely, that the three great packing houses which control the market are engaged in a deliberate conspiracy to put the "speculators," as they call them, or, as they should be named, the cattle dealers at the Kansas City market, out of business. These cattle dealers simply buy and sell cattle at the stockyards just as merchants buy and sell goods, and it is a crime to attempt to crush them, as the packers beyond question are now attempting to do. It was shown in the case I am now referring to that on a given day these three great packing houses I have referred to all gave instructions to their buyers to buy no calves from "speculators." You can readily see the purpose of this. If they could put the independent buyer of calves out of business they would then be able to come in direct contact with the farmer and buy his calves at their own price. Here we see the gist and wickedness of the beef trust. Everybody knows that after they had bought the calves of the farmer at their own price they would then sell veal just as high as ever, for in doing this they would simply make more money, and rapacity knows no bounds with the modern packing houses. A packer died in Chicago a few weeks ago who had made, it was said, $50,000,000. Now what farmer has made $50,000,000? We have, it is said, now a large number of packers worth this or more who a few years ago were worth nothing.

What then ought the farmers to do? Beyond question your watchword should be *co-operation.* You ought to get together and demand your rights. If there is another great body of workers in the United States who are not already organized to protect themselves I do not know it. In all ages of the world the farmer has been the man most oppressed, but with the intelligence now possessed by the farmers of the United States there is no reason why this should continue. The farmers ought to get together, not only for the purpose of receiving what they are justly entitled to in the great markets of the world, and especially in the cattle markets in the United States, but in Missouri they ought to combine to put men in the State Legislature who will pass laws intended to secure justice for the producer. Farmers do not stand by one another in this behalf. You get some splendid, common-sense farmer to become a candidate for the Legislature, and then they raise the howl that he is a "hayseed;" he is a "back number." And some young upstart from town defeats him for the office. As most important legislation should be enacted by our next Legislature affecting the rights of farmers, there ought to be a committee sent to the Legislature to urge that body to appoint a committee to investigate the matters at Kansas City I have spoken about. I know I have told you the truth. There ought also to be national legislation along these lines, for a law passed by one state would not suffice where the markets are located in several states.

The farmers have a great work before them. They will be left in the strenuous rush in the age in which we live if they do not organize and protect themselves. You owe it to yourselves, to your families and to your country to organize and co-operate.

Pigs and Pasture Make Sure Profit.

Poultry Meeting at Columbia.

(H. L. Kempster.)

Prof. Kempster.

Since the income from the farm poultry flock plays an important part in the farm income, each year there has been provided a special poultry program for Farmers' Week, in order that those who wish to may become more familiar with the problems arising in their work and acquaint themselves with better methods of poultry culture. There has been a gradual increase in the interest and attendance, which manfests that more attention is being paid to the Missouri hen. During the session of Farmers' Week in January, 1914, seventeen meetings were held, with a total attendance of 800 people. The following program was rendered:

Poultry Conditions in Missouri, H. L. Kempster; Housing Farm Poultry, C. A. Webster; Poultry Diseases, Their Prevention and Treatment, H. L. Kempster; Marketing Eggs, H. L. Kempster; Feeding Hens for Egg Production, Wilson Cramer; The Canadian Method of Marketing Eggs through Co-operative Egg Circles, C. A. Webster; The Successful Hatching and Brooding of Chicks, H. L. Kempster; Breeding for Egg Production, H. L. Kempster; Marketing Poultry, H. C. Pierce; Fattening Farm Poultry, C. A. Webster; Breeding and Judging Poultry, E. C. Branch; The Efficiency of the Hen as a Factor in Farm Profit, R. C. Lawry; Some Lessons from the National Egg Laying Contest, T. E. Quisenberry; Organizing to Handle Poultry Products, S. D. Gromer; Community Co-operation in Hatching and Marketing, R. C. Lawry; Modern Methods of Poultry Culture, T. E. Quisenberry; Demonstration in Killing and Dressing Poultry.

THE CARE OF MARKET EGGS.

(H. L. Kempster, associate professor poultry husbandry, University of Missouri.)

Poultry plays an important part in the products of the Missouri farm. The Bureau of Labor Statistics states that the wealth produced by Missouri poultry in 1911 amounted to fifty million dollars, an amount equaled to the combined output of gold and silver from California, Colorado and Arizona for the same year. Of this sum the estimated value of eggs produced is at least twenty million dollars.

Eggs are a perishable product. Their quality depreciates with age, especially when improperly handled. A common conception is that cold storage is responsible for the average low quality of eggs, but this is a mistake. Investigations have shown that eggs deteriorate very little if in good condition when placed in storage. The deterioration of quality and the corresponding depreciation in value are due to causes outside the storage.

Marked improvement in the marketing of other foodstuff, such as dairy products and fruit, has been made, but so far little improvement has occurred along the line of marketing eggs. Despite their importance as foodstuff, they are handled in such a manner as to result in enormous losses.

Losses in the Handling of Eggs.—Bulletin 141 of the Bureau of Animal Industry of the United States Department of Agriculture states that seventeen per cent of the total crop is lost annually. On this basis, the annual loss in Missouri would amount to over four million dollars, which means that each year the poultry producer or the Missouri farmer loses a large portion of the profits of his poultry flock because of carelessness in handling the poultry products.

A new-laid egg is a fresh, sweet, nutritious food, but the average egg reaches the market in such a condition that the consumer hesitates before he has sufficient courage to use it. So great is the shrinkage and the inferior quality that the consumer scarcely recognizes the product that was once in a condition to be valued as a delicacy. The consumption of eggs is much less because of the neglect that permits such a deterioration.

The Channels Through Which Eggs are Marketed.—Eggs produced on the farm are, perhaps, taken to the grocery on an average of once a week, usually on Saturday, which is the grocer's busy day. Under the most favorable conditions it is probably Monday or Tuesday before they are shipped to the nearest egg collector, and a day or two is spent in the transit. Sometimes the collector is in the same town and the time intervening is perhaps a day less. The collector then ships the eggs to commission men, when another day or two is added to their age. The jobber disposes of them to the retailer, who holds them until bought by the consumer, or they may be placed in storage to be held for later trade. They are usually candled once or twice in transit and always before going into storage.

With every precaution, it is readily seen that an egg is at least two or three weeks old when it reaches the consumer. When one appreciates the length of time it requires to place eggs before the consumer he will realize the necessity on his part of caring for the eggs in the best possible manner. The shipper usually appreciates this necessity and hurries the eggs to headquarters, where refrigerator cars, cold storage, etc., check the further deterioration. Eggs do spoil. They do not melt or sour, but they decay rapidly. An appreciation of this fact will cause greater care in their handling. Government experts tell us that a large percentage of the losses can be traced back to improper handling on the farm.

A large number of people even go so far as to sell eggs whose quality is questionable, thinking that the loss is borne by some other than the producer. There could be no more serious mistake. The price of eggs is determined by their quality when sent to the consumer. The purchaser, whether a commission man or the country storekeeper, must buy eggs at a lower price in order to come out even on the entire deal; hence the continued practice of placing bad eggs on the market results in an average low price for eggs. Figuring on the seventeen per cent loss, it can readily be seen that if only good eggs reached the egg buyer he could easily afford to pay a higher average price than he does at present.

Present Methods of Buying not Conducive to Production of Better Quality.—The present method of handling eggs in a large majority of cases, however, does not encourage the production of good eggs, especially when purchased by the country store. Often the storekeeper, in order to obtain the trade of the farmer, pays a higher price for the eggs than he sells them for, many times losing money on his egg transactions. He does this in order to get the farmer to "take it out in trade" and marks his goods up, thus making his profit on the goods he sells, not on the eggs he buys. It is common practice for a grocer to have two prices for eggs—so much "cash" or three or four cents per dozen more "in trade." This works an injustice on other customers, because the goods are marked up so that the grocer can come out even or make a profit on his egg transactions.

Eggs are bought in most cases just as they come from the farm—good, bad and indifferent, and a flat price of so much a dozen is paid. This nominally places a premium on bad eggs, and the result is that the eggs when collected into the egg depots are usually an uneven lot in size, color and condition. As long as the present system of buying is used there can be little hope of the elimination of the present enormous losses. Until some scheme is devised which will cause the producer of good eggs to realize a greater profit, and the producer of bad eggs to stand a loss because of his carelessness, the egg industry will not approach its possibilities. The "case-count" method of buying should be eliminated from the system of buying eggs. A better method is to buy on a "loss-off" or "quality" basis. The methods which are employed by the country store and by some commission men, in which they buy all eggs just as they come at the flat rate, is what is known as the "case-count" method.

In some sections, however, there has been adopted a system known as the "loss-off" system of buying, a practice which results in the eggs being candled as they are brought in, the good ones accepted at a higher price and the bad ones turned back to the person who produced them. It is interesting to note that in these sections where the "loss-off" system has been used the quality of eggs has improved, and where the system is fully understood there exists greater harmony between the producer and the egg buyer. Many firms candle eggs as they come in, but make the mistake of not explaining to the producer that he is getting a higher price than he would were they not candled. Where the buying is done by an egg dealer and not through the country store this practice seems to be working satisfactorily. However, where the egg dealer and grocer are both working in the same town the grocer generally pays more for the eggs than the egg dealer can afford to pay, making his profit by the goods which he sells. It is thus seen how difficult it is to establish a "loss-off" system of buying eggs under those conditions. Where possible, it would be advisable for the egg buyers in a certain town to universally agree to buy eggs according to a certain system. If the egg dealer attempts to purchase eggs on a quality basis while the grocer is purchasing case count, it will result in all of the trade going to the grocer.

Bad eggs are due to climatic conditions, careless or deliberately bad marketing and poor care of poultry on the farm. Keeping eggs in damp quarters tends to develop mold spots and musty eggs. The storing of eggs in rooms having strong odors will cause the eggs to take up these odors, and often accounts for the bad flavor of eggs.

Eggs for the market should weigh one and one-half pounds per dozen. They should be uniform in size and color, should be naturally cleaned, not washed; should be strong-shelled, not cracked; should be fresh, not over five days old; should be laid in clean nests; when weather is warm they should be gathered daily—twice, if possible; should be placed in a cool, clean, dry place away from flies; should never be sold from stolen nests.

CAUSES OF BAD EGGS.

A summary of the losses in eggs is given in Circular 11 of the Bureau of Animal Industry as follows:

Dirties	2 per cent
Breakage	2 per cent
Chick development	5 per cent
Shrunken or held eggs	5 per cent
Rotten eggs	2½ per cent
Moldy or bad flavored eggs	½ per cent

The farmer is responsible for a large portion of this loss. Some farmers think of collecting eggs only when a trip to town is to be made. In many instances eggs from stolen nests, if whole-shelled, probably find their way to market. The housewife holds the eggs where it is most convenient, usually in a hot kitchen, which hastens deterioration. Often, too, the eggs are held until the basket is full or the price may go up. In a study of egg marketing conditions by the bureau of chemistry Miss Pennington found that the losses from rots and other total loss was:

June	3.1 per cent
July	2.79 per cent
August	3.43 per cent
September	4.03 per cent
October	4.47 per cent
November	8.33 per cent

That same year, in October, eggs brought to the country storekeepers from the farms would grade on the Chicago market:

Firsts	25 per cent
Seconds	60 per cent
Cracked	5 per cent
Rotten	4 per cent

Some of the eggs had been held for four weeks.* The farmer, of course, is responsible for only a portion of the loss, yet he can do much to improve the quality.

What the Farmer can Do to Prevent Loss.—First, market only eggs of standard size, twenty-four ounces or more to the dozen.

Second, sort out exceedingly large or small eggs.

Third, avoid dirty eggs by using clean quarters. Eggs should be naturally clean, not washed. A washed egg loses its bloom and appears stale. The washing also causes the eggs to decay more rapidly. The moisture not only favors the growth of molds, but also makes the membranes more pervious to bacteria and assists in their development.

Fourth, remove male birds as soon as breeding season is over. Fertile eggs do not keep well. Five per cent of all eggs marketed are a total loss because of chick development. Besides, a large proportion of rots are due directly to chick development being retarded. The object of a hen in producing eggs is to reproduce herself. If mates are present and the egg is fertilized, the embryo starts to develop within the body of the hen. When a proper temperature is again maintained this development continues. There will be slow growth at any temperature above 70 degrees Fahrenheit. A temperature of 84 to 90 degrees Fahrenheit maintained for three days will produce as great a development as one day at a temperature of 103 degrees. A temperature of 104 to 110 degrees for one day will produce an embryo as far developed as three days at a temperature of 103 degrees. When one appreciates this fact he can see the necessity of removing male birds from the flock as soon as the breeding season is over.

The production of infertile eggs is especially advantageous during the summer. They do not develop germs, stand shipment well, withstand heat, are easily preserved, slow to decay, and cost less, and it costs money to feed surplus males. The highest price on the market for old male birds is at the end of the breeding season, and the hens will lay as well or better with no males present in the flock. An infertile egg can thus be produced, and, if unwashed, will keep indefinitely. A large percentage will dry up before they will rot.

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*Yearbook, United States Department of Agriculture, 1910.

In bulletin 160, Bureau of Animal Industry, the losses on infertile eggs in some experimental work were as follows:

Loss on farm	15.5 per cent
Loss during stay in town	4.0 per cent
Loss during transportation	4.7 per cent
Total loss	24.2 per cent

For fertile eggs—

Loss on farm	29.0 per cent
Loss during stay in town	7.1 per cent
Loss during transportation	6.4 per cent
Total loss	42.5 per cent

The greater loss is on the farm, and by the production of infertile eggs this loss was reduced from 29 per cent to 15.5 per cent, or a loss of 13.5 per cent was saved on the farm by the production of infertile eggs, while the total loss was reduced from 42.5 per cent to 24.2 per cent, or a loss of 18.3 per cent was prevented by the removal of the male birds. When these facts are appreciated one will readily see the necessity of employing this practice.

Fifth, store eggs in cool places, which are well ventilated and dry. Heat assists in chick development, increases shrinkage and develops molds.

Sixth, collect eggs from nests daily, or twice daily in warm weather. Stolen eggs are largely responsible for rotten and spot eggs.

Seventh, keep eggs away from bad odors. They absorb them as readily as cream, and they should be kept away from kerosene, cabbage, rotten food, fresh paint, etc. Food also influences flavor—only clean foods should be fed.

Eighth, market eggs at least once a week. An egg deteriorates in quality with age. Eggs should not be held until the basket is full or the price goes up.

Ninth, keep eggs covered so as to prevent dust from settling upon them and flies from running over them.

Tenth, secure a suitable egg case for marketing eggs.

Eleventh, produce eggs of one color.

Twelfth, insist that your egg buyer recognize quality, that he buy on a quality and loss-off basis.

The more careful handling of eggs on the farm will not only eliminate some of the present losses, but will also stimulate in the poultry producer a greater interest in his poultry which will result in their having better care. The farmer must learn to select good breeds of chickens, take care of them in a good manner, and produce eggs which are larger and cleaner. He should kill off all breeding males as soon as the breeding season is over and in this way eliminate a large percentage of blood rings and rots in eggs. The country storekeeper should be taught to buy on a loss-off basis instead of case count, since buying on case count places a premium on bad eggs and encourages their production. The practice of taking it out in trade at the country store should be eliminated for a cash basis instead of credit being employed. The great cause of losses in eggs is at the source of production. Improvement has been made in the channels of trade in the better handling of poultry products because of competition and realization of the importance of better business methods. When the farmer is brought to realize that nearly one-fourth of his profits from eggs is thrown away because of carelessness, he will see to it that better methods are employed in handling those products and will eliminate a portion of the enormous losses which are occurring at the present time.

THE CANADIAN CO-OPERATIVE EGG CIRCLES.

(C. A. Webster, department of poultry husbandry, University of Missouri.)

The common hen is coming into her rightful place on the farm. More and more attention is being given to poultry. Poultry produces in the State of Missouri, according to the United States census for 1910, an annual value of $125.40 for every farm in the State and the hen is just swinging into her stride. These figures are bound to increase.

Let us consider the reason for the success of the Missouri farmer with poultry. Is it due to his care and attention? Rather is it in spite of his methods. Missouri, with her favorable environment and climatic conditions, is adapted by nature for the profitable raising of poultry.

When we examine the average farmer's methods we find a great lack of proper care and attention. The housing is poor; the chickens are raised in small, crowded areas, and the eggs are not properly stored nor marketed in the best manner. Ninety per cent of the eggs marketed in Missouri during the later spring months and throughout the summer are from two to three days under incubation. The males are allowed to range with the flock after the breeding season is over. Often eggs from stolen nests and other eggs of doubtful character are marketed. All these conditions are bad and reflect to the discredit of the farmer. When marketing, the country storekeeper buys everything that is brought to him. He pays the same price for all eggs, regardless of quality, size or soundness. Usually goods are given in exchange. This system of buying eggs as they run is the "case-count" method. The storekeeper often has little idea of the value of careful storage of the eggs and further deterioration results. When one realizes that a temperature of 70 degrees will start the embryo to hatch it is little wonder that we have such a large proportion of rotten eggs. Over four million dollars is lost annually to the Missouri farmer by bad eggs.

Exactly the same conditions were formerly prevailing in Ontario, Canada. How to change these conditions and bring about the proper production, care and marketing of eggs is an immense problem. To accomplish this result we must educate the farmer. The best manner in which to do this is to reach his pocket. So we must be able to show that better care and attention to the poultry brings increased returns.

The Ontario Department of Agriculture became interested. After some study of the situation the marketing end of the situation was the one that seemed the best point of attack. To increase the production alone would hardly bring the farmer relief. It would merely lessen his selling price. To better the marketing end would increase the selling price and, as a natural result, make it worth while to take the required care of the poultry. In the successful marketing of poultry products the Danish people were found to be eminently successful. Their success was due to co-operation.

THE OLD WORLD VERSUS THE NEW WORLD.

The position of the Danish farmer is entirely different from that of the Canadian or American farmer. There the farms are small; the farmers are either tenants or else owners of quite small farms, ten, fifteen and twenty-five acres being the usual farm. The soil is poor and the climate rigorous. As a natural result the Danish farmer is quite poor and so has all the traits commonly attributed to the poor the world over—honesty, frugality and industry. Such was their condition in the 80's.

Co-operation.—Co-operation changed their poverty to a considerable extent. By its means the farmers were united. Each farmer with his one, two or three cows and his few chickens, often all being under the same roof, was now enabled by united effort with his neighbors to do their marketing together. By thus pooling their products and living up to certain rules unprecedented success was the result. At present there are over 550 egg circles which were affiliated into a central organization in 1895. This organization now embraces over 40,000 farmers. The great bulk of their products are shipped to the British market. The eggs are graded by weight and color and top the British market even over the native eggs. The keynote of the Danish success is "uniformity." How to adapt these egg circles to American conditions was a problem. Here we have our farmers in a different position—they possess good farms, money, and above all, sturdy, even obstinate, independence. To induce them to join together in co-operation is a serious undertaking.

Realizing these things, the Ontario agricultural experts approached the new situation with careful consideration.

The Egg Circle Movement in Ontario.—In 1909 the county of Ontario was selected in which to start operations. This county borders on Lake Ontario and extends back a considerable distance. It thus has a diversified agriculture. Each district in the county was carefully investigated and the opinions of the farmers sounded. Then the district which offered the most favorable conditions was selected. Next a further canvass from farm to farm was made and interest aroused. A meeting was held. Nothing was left to chance and nominations were arranged beforehand. Experts were present who spoke, and it was decided at the meeting to organize an egg circle. Seven directors were appointed, four being appointed for a term of two years and three for one year. These directors elected among themselves a president, vice-president and secretary. Dues were fixed at thirty cents and annual fees at twenty-five cents. A manager was appointed, rubber stamps bought and one given to each member. The dues barely paid for the stamps, etc.

Duties of the Manager.—The manager was required to go out on a regular route each week and collect the eggs, repack and take them to the railway station, ship the eggs and disburse all money received. His commission varied from one to two cents a dozen, depending on the season. He deducted his commission and freight and paid the balance to each member on his return trip the following week. The eggs were all sent to a large poultry produce firm in Toronto who were willing to give a premium price for the eggs.

Duties of the Secretary.—The secretary kept the accounts and looked after the supplies and books.

Duties of the Members.—1. They must deliver all eggs not used for home consumption or breeding purposes. All eggs must be unbroken, clean, fresh, of good size and not more than one week old.

2. Before being delivered all eggs must be stamped on the broad end with the stamp supplied by the association.

3. Only false eggs of gypsum, china, etc., may be used as nest eggs.

4. Eggs must be gathered twice a day and kept in a cool room, free from draught, dampness or any foul odors and in a temperature not exceeding 60 degrees nor lower than 45 degrees.

Results of the Egg Circles.—From the original egg circle eight more have been started and are in successful operation in Ontario county, with a membership of well over 500 farmers.

The premium received by the members has averaged from three to five cents in the spring and summer to as high as fifteen cents in the winter months. This premium has averaged about twenty per cent above the prices realized by nonmembers.

The winter egg production in the county has increased by over twenty per cent through the greater interest in poultry now taken.

Demonstration poultry houses have been established in the county and thus a bred-to-lay strain of fowls has been disseminated and the proper care and management of poultry has been fostered.

Difficulties Encountered.—Many difficulties were met with and much tact and patience were required.

It was found that the employment of the proper man for manager virtually spelled the success or failure of the circle. The manager must be honest and energetic and one possessed with tact.

It is extremely hard to hold the members in line during the spring months when everybody's eggs are good and prices are more nearly uniform. Then the dealers would entice the members away and much trouble thus be given.

Again, the adoption of stringent rules is not to be recommended. The expulsion of a member for an infraction of a minor rule might well prove disastrous to the egg circle. It is better to try to encourage and persuade the member to do right than to expel him. After the circle is well established this trouble would not be as serious.

The stamped eggs are often objected to because if not properly stamped the egg was smeared. The ink would often soak in, staining the white of the eggs. Thus a clean egg was preferred.

Again, the eggs when stamped were sometimes not good enough to be sold as "extra firsts." But to sell them as "straights" was impossible as the retailer would ask questions and refuse them, so they would have to go as "No. 2" and thus realize a lower price than would otherwise be the case. These last objections would be met by using a neat, attractive package and by stamping the package only.

Parcel Post.—At present the shipping by parcel post is rather expensive. The postage costs about three cents a dozen, the package another cent and there is quite a deal of labor required. To send the eggs by freight just costs a fraction of this, being about half a cent a dozen.

To hold customers by parcel post, a steady egg production is required. This condition is one hard to meet. Again, an unduly large proportion of the eggs are broken or damaged by parcel post.

Conclusions.—The real benefit derived from the co-operative eggs circles is not so much in their successful operation in itself, but from the increased interest taken in poultry by the farmers. In Ontario, from a careful census taken of 448 farms, about two-thirds of the farmers were either indifferent or uninterested in poultry. To get these men interested in poultry is a greater thing than the success of the egg circle in bringing increased profits to its members.

To receive the greatest benefits from co-operative marketing we must organize a central society. Then we must operate or rent space in a cold storage plant and store eggs. A thirty-dozen case of eggs can be kept in cold storage for a space of six months for thirty to thirty-five cents. A broker will sell them for a commission of one-half a cent a dozen. Freight charges will bring this cost up to a total of two cents a dozen. If we can place eggs in cold storage at twenty-two cents a dozen and sell for twenty-four cents we can produce for the farmer a handsome return for his eggs.

INCREASING THE WINTER EGG YIELD.

(Prof. H. L. Kempster.)

The problem of the person keeping hens is how to get eggs when prices are high. During the winter hens seem to possess a lack of inclination to produce. The successful poultryman is the one who solves this problem. He who solves it best is the most successful.

There are many factors entering into this problem. A casual glance at some will perhaps direct our attention to the mistakes made and assist in their future avoidance.

In the first place, let us realize this fact: Commercial poultrymen do not expect large egg returns from last year's hens. A hen goes into the molt in late summer and fall. She does not produce a crop of feathers and eggs at the same time, so that while the new plumage is being grown there is a cessation in the production of eggs. Hens during their second year lay on an average of two dozen eggs less than pullets. This number is taken out during the winter production. It is unusual for hens to produce liberally during December and January. From the standpoint of breeding this is highly desirable, but not from the standpoint of winter egg production. It is from pullets, then, that winter eggs are expected, and in order for pullets to lay it is necessary that they be completely developed. The time of hatching is an important factor. They should commence laying in November and December, and, if properly taken care of, will continue to produce eggs all winter.

HATCH EARLY.

The great fault with farmers is that they do not hatch early enough. With good care it requires six months or more for Leghorns to develop to maturity. Heavier breeds require from a month to six weeks longer. To be able to mature a pullet before November 1st necessitates hatching not later than June 1st for Leghorns and May 15th to 30th for the other breeds. The concensus of opinion is that April and the first part of May is the best time to hatch. Not only is it the most desirable time of the year from the standpoint of growing the chicks, but it is absolutely necessary if the poultryman expects winter eggs.

One point should be considered, and that is the danger of hatching too early. Particularly is this true of Leghorns.

A bird should not commence laying in September. When a pullet lays at that time of the year there is a great probability that she will go into a fall molt. If this occurs the hen has a vacation for three months just at the time when winter eggs are expected. Avoid the fall molt by hatching at the right time. Obtain winter eggs by developing the bird so that she commences laying in November and early December.

Another point that should be taken into consideration is that of the breed itself. Some hens are born to lay, some are not. The writer kept two flocks side by side, same age, same house, same care; one flock produced on an average of one hundred and twenty eggs in a year. The other produced on an average of seventy. The only difference in the two flocks is that one had inherited from its ancestors the faculty to produce eggs, the other had not.

Having considered the factors other than the care of the hens, let us now take up this question: By November 1st the birds should be placed in winter quarters. The house previous to this should be thoroughly cleaned and precautions should be taken to see that the house is dry, free from cracks, comfortable, well ventilated and with plenty of light. The floor should be covered with at least a foot of straw so that the birds are compelled to exercise for their food. Pullets should not be confined with hens if it is possible to make other arrangements. The hens always overrun strange birds, make it unpleasant, thus checking the pullet's growth.

THE FEED.

One of the first principles of poultry feeding is that poultry will not do well if fed on a grain ration alone. The feeding of grains alone is too great tax on the digestive apparatus of the fowl. Too much energy will be taken up in digesting the food and less will remain for the production of eggs. The writer has observed a large number of flocks which were not only deficient in egg production, but also were impaired in health because of this practice.

In addition, a ration of grains does not possess the required food nutrients in their proper proportions. To correct the first fault ground feeds should be fed and in the proportion of one-half as much ground food as whole grains. To correct the second it is necessary to supply those foods necessary for the production of eggs. Wheeler of the New York Experiment Station has supplied the following information: When laying, a 3 to 5-pound hen requires for every one hundred pounds of live weight, or in other words, 20 to 25 birds, 5.5 pounds dry matter, 0.3 of a pound ash, 1.0 pound protein, 3.75 pounds carbohydrates, 0.35 pound fat.

Wheat, which is considered one of the best poultry foods, possesses 5.5 pounds dry matter, 0.09 of a pound of ash, 0.62 of a pound of protein, 4.25 pounds of carbohydrates, 0.1 of a pound of fat. About three-quarters of the ration is used in supplying the food nutrients necessary for maintaining the body, the other fourth is given over to the production of eggs.

If the hen eats four ounces of wheat a day and one quarter is used in the production of eggs, what would be the result? One ounce of wheat has one-tenth of an ounce of protein. An egg contains one-fourth of an ounce of protein; so the hen would have enough protein for an egg every two and one-half days. Figuring the same on ash, it would have enough to produce an egg every twelve days. It would have an excess of the other food requirements. This shows that it is poor economy to feed a grain ration or a combination of grains and ground feeds, because they alone are not of a nature to furnish the needs of the hen. Other grains, such as corn, would show a greater difference.

NEED OF PROTEIN FOODS.

It is necessary, then, to add something to the ration to balance it up. This is done by adding foods high in protein. For efficient production of eggs one must feed some such food. Foods which are suggested and used are linseed meal, meat foods, such as beef scrap, meat meal, etc., buttermilk, skim milk, and occasionally milk, albumen and fish scraps.

The following is a good ration for egg production:

Grain—Corn and wheat, equal parts.

Mash—Bran, middlings, 2 parts each; corn meal, beef scrap, 1 part.

Twice as much grain should be fed as ground food.

Another suggested ration is corn and wheat, equal parts, and oatmeal—ground fine with part of the hulls removed—buttermilk or skim milk, in addition to water for drink. In all cases grit and oyster shell should be kept where the birds may have access to them at all times. Failure to supply this will result in a less number of eggs or soft-shelled eggs. Clean, fresh water should be kept before the birds at all times. The egg is sixty-five per cent water and the bird requires large amounts.

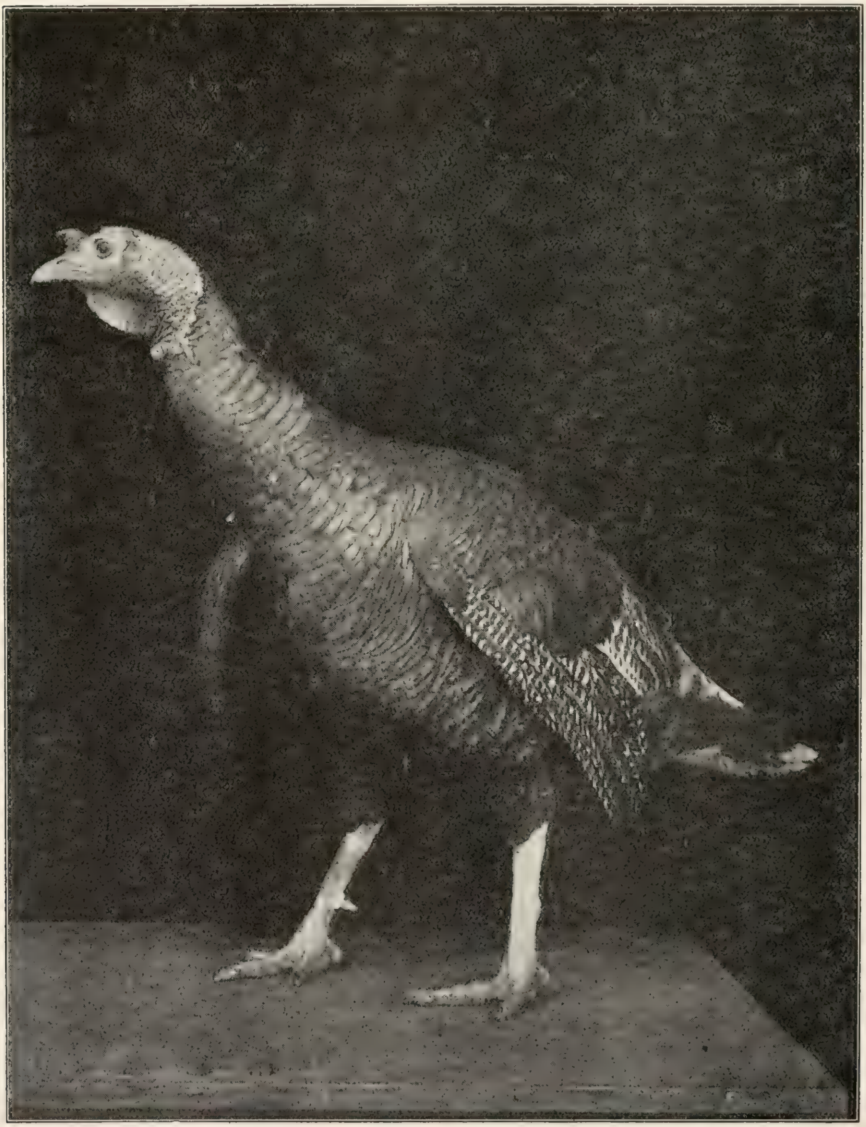
Green food should always be supplied, especially in the winter. It assists in keeping the digestion perfect and is claimed by some to make the digestion of other foods more efficient. Green food may be supplied by feeding sprouted oats (all the birds will eat), cabbage, hung up in the pens so the birds can peck it, wurtzels, clover hay steamed or soaked over night, alfalfa, etc. Lack of green food also results in pale-colored yolks, an objection to some who cater to a fancy trade.

METHOD OF FEEDING.

Poultry feeding depends quite largely on the individual feeder. He should gain the confidence of the hens; should treat them in such a manner that they are not excited. He should understand their needs and cater to their tastes. In other words, as much depends upon the feeder as upon the feed. He should appreciate the hen's nature, and by varying the ration keep the birds on edge.

One of the great factors is compelling the birds to be active. Unless a bird keeps busy there is danger of her becoming too fat. This checks the circulation of blood in the ovary and lessens the number of eggs. The feeding should be liberal. Unless a hen has some fat she will not lay. To feed enough so that this condition exists and not have the hen too fat is the problem that the successful feeder has solved. In the morning feed grain. Bury it deep in the litter. This induces exercise. At noon feed the mash dry. This can be done by opening the dry mash hopper or feeding a definite amount in a trough. At night feed grain, all the birds will eat. Let no bird go to roost unless its crop is full. A few visits to the henhouse after the birds have gone to roost will indicate whether the correct amount is being fed. They should be fed all that they will consume and yet be kept active. Some people feed the ground feeds as a wet mash. It requires greater skill to do this than to feed dry feeds. A little wet mash, however, is desirable. This also affords the feeder a chance to vary the ration. The feeding of wet mash should be limited. The amount fed should not satisfy the bird's hunger, but rather stimulate it. A hand-ful of wet mash to every four birds will cause them to become active and more of the dry mash will be eaten as a result.

In conclusion, the writer wishes to emphasize the importance of skim milk and buttermilk for egg-producing rations. Experiments tend to prove that more economical results are obtained with their use. Changes in the rations should be made gradually. There is no best way to get results, but the suggestions given will aid materially in increasing the egg yield.



Missouri Women Farmers' Club.

OFFICERS.

President—Miss Pearle Mitchell, Rocheport.
Vice-President—Mrs. Rosa Russell Ingels, Columbia.
Secretary—Mrs. Maude M. Griffith Wood, Harrisonville.
Treasurer—Mrs. R. B. D. Simonson, Jefferson City.

MINUTES OF PROCEEDINGS OF ANNUAL MEETING.

(Mrs. Maude M. Griffith Wood, Harrisonville, Mo.)

Mrs. Maude M. Griffith Wood.

The Missouri Women Farmers' Club met in regular session in the agricultural building, Columbia, Mo., at 3 p. m. January 14, 1914. The meeting was called to order by the president, Miss Pearle Mitchell of Rocheport, after which the minutes of the last meeting, held in Columbia January 14 to 16, 1913, were read by the secretary.

The president's address came next in order and was full of hope and enthusiasm for the future.

Prof. D. H. Doane of the farm management department, University of Missouri, was present and gave an excellent talk on "How to Make a Farm Pay."

Miss Ida Fischer of Shenandoah, Iowa, our associate member from across the line, was unable to be present, but sent her paper, "Farm Labor in Other States," which the secretary read before the club. Miss Fischer took a more optimistic view of the labor question than do most of the Missouri women farmers.

Mrs. Ingles with a very interesting talk closed the first day's program.

On Thursday, January 15th, the afternoon meeting was called to order at 2 o'clock instead of 3 o'clock. Prof. A. J. Meyer, assistant to Dean F. B. Mumford, Missouri College of

Agriculture, again delighted the women farmers with an excellent talk. He discussed the scholarship question at length and gave his idea as to future work of women in agriculture.

Dean F. B. Mumford honored the women farmers with a visit and gave a very interesting talk.

Mrs. Turner McBaine of Columbia then told of her experience with share tenants.

Miss Alice Kinney of New Franklin discussed at length some of the labor-saving devices of advantage on the farm.

Miss Adella Blew of Montrose gave her report as delegate to the International Congress of Farm Women at Tulsa, Okla.

Friday, January 16th, the club convened at 2 p. m. as on previous day. The program was opened by Miss Laura Burroughs of Columbia, who spoke on "Why I Stayed on the Farm."

Mrs. Maude M. Griffith Wood then gave a report of the Women Farm Managers' Association which was organized at Tulsa, Okla., last October.

A telegram from Mrs. Mabel Miller of Osceola was read bearing greetings and a motion to increase dues. There was no second to the motion.

The question of national federation than came up for discussion. It was voted to join the National Federation of Women's Clubs, and the secretary instructed to look after the same.

The delegates to Chicago convention were named as follows: Miss Mitchell, with Mrs. Ingles and Miss Blew as alternates.

The program for next year was then generally discussed by the club, after which came the election of officers.

Miss Blew of Montrose hastened matters materially by a motion to re-elect by acclamation the present officers. Motion prevailed.

Thursday, at 12:30 o'clock, the club met at Pemberton hall for the annual dinner. At this time a motion was made and carried to the effect that the secretary be instructed to send a letter of greeting to Mrs. Simonson of Louisiana, who was unable to be present owing to the illness of her only son.

Four new members came into the club during our stay in Columbia.

On Friday the club adjourned to meet at the call of the president.

PRESIDENT'S ADDRESS.

(Miss Pearle Mitchell, Rocheport.)

The Missouri Women Farmers' Club is celebrating its third anniversary. From five members, timidly uniting for mutual benefit, it has now twenty-five active, energetic women who are earnest tillers of the soil. They are intelligently and profitably managing their farms and are fullfilling the duties of citizenship. The club members are not neglecting home or any work that is peculiarly that of women because they have chosen the profession of agriculture. Motherhood, home making and philanthropy are inherent, and however full her hands and time, the feminine nature will not allow a disregard of these highest claims.

The influence of the Missouri Women Farmers' Club has found an echo in many states of the Union, which culminated in November in an organization at Tulsa, Okla., during the International Congress of Farm Women, of a national organization of women farmers to be known as "The National Association of Women Farm Managers." I am constantly receiving letters of inquiry regarding our club from individuals and the press. All this means that women farmers have found their place in the world's activities and are being recognized as among those whose faithful attention to a chosen vocation has brought success.

The scholarship we have offered to the girl who will make good in the study of agriculture has aroused much interest. Other colleges have investigated its results and many inquiries from young women come to me.

The report of this club at the meeting of the Missouri Federation of Clubs last year introduced us to that great body of workers, and many were curious and interested in knowing of this practical branch of woman's work. I have mentioned a few of the things resulting from our organization, and you must hear of some things we have not done. We have not reached the hundreds of women farmers in our State who should be allied with our club. We have not shown the proper zeal in regard to bringing the results of our year's experience here for discussion, which is necessary. Each one of us has not added a name to the roll of membership as agreed upon last year at our delightful round table. Is this lack of enthusiasm

In this group are most of the officers of the Missouri Women Farmers' Club.

or the strenous demands of varied interests? I prefer to believe the latter true.

My friends, I beg of you to bring the same earnestness to hand that has made you so useful in the propaganda of suffrage, or your church's welfare, or the literary clubs to which you belong—then our roster will increase and our attendance likewise.

During these sessions I urge that we consider the vital problem of farm labor. Perhaps some one may offer a solution, for it confronts us as a constantly growing obstacle.

Are we doing our part toward building or encouraging good roads? We have wide opportunities in this line, for women are wont to carry through what they undertake. Let us insist upon properly graded roads and frequent use of the road drag, though we should, like one woman farmer in Callaway county, set the example by doing the work ourselves.

More and more am I convinced that we do not watch carefully enough the by-products of the farm—how many of us let the wheat straw rot instead of baling it, or leave the windfallen apples decaying on the ground—our gardens should give some surplus to the markets while the house and poultry products should help keep up the household expenses. Our repeated drouths force us to think of the conservation of moisture. The destruction of the forest has removed one great means of retaining moisture preserved by leaves. The introduction of deep wells instead of ponds has eliminated the opportunity for evaporation afforded by the big body of water which returned to us in showers. We are consequently forced more and more into the practice of "dry farming," experiences which I hope we will be able to discuss during this meeting.

One most important subject for our consideration is organized co-operation among farmers. There is yearly increasing necessity for it, forced upon us largely by the increasing lack of business integrity. It is my belief that not until the consumer and producer meet as buyer and seller, or operate through a farmers' market, will the cost of living be reduced. The farmer gets no better prices than the expense of producing the foodstuffs demands. Hence one must look to the much handling of the same for the reason of its increased cost to the consumer, unless perhaps we except eggs, when the hens go on a prolonged strike, as has been the case this winter. However, even then these hens were eating corn at 80 cents a bushel, wheat at 95 cents a bushel and other things in proportion—so eggs had to be high to pay their keep.

These are all problems for the women farmers. They are part of our business. We are here to take council together, to help each other, and to lay upon each of you the responsibility of co-operation and fraternity as represented by the Missouri Women Farmers' Club.

REPORT OF WOMEN FARM MANAGERS' ASSOCIATION.

(Mrs. Maude M. Griffith Wood.)

At Tulsa, Okla., was born the second organization which has to do exclusively with the interests of women farmers, viz., the Women Farm Managers' Association, which is a national organization.

This unique organization is the direct outgrowth of the influence of the Missouri Women Farmers' Club through the efforts of its president, Miss Pearle Mitchell, and the interest of Mrs. Clark Kelley of Devil's Lake, N. Dak.

The Missouri Women Farmers' Club has been the subject of much interest and comment, not alone in Missouri, but throughout the United States. Women from various states as well as persons interested in agriculture have written repeatedly for our constitution and for information as to working plans of the club. In many states numerous women farmers have made themselves known. At Tulsa, Okla., during the convention of International Congress of Farm Women, the women farmers were given one whole program. At this time there were women farmers present from nine states, and all seemed anxious that some sort of a national organization be formed. As a result, owing to lack of time only temporary organization was effected and temporary officers elected, with the understanding that next year we would meet with the International Congress of Farm Women at Wichita, Kan., and perfect a permanent organization. Mrs. Kelley of North Dakota was made temporary president; Mrs. Belle v'D. Harbert of Magnolia, Col., president of the International Congress of Farm Women, temporary vice-president, and Miss Pearle Mitchell of Missouri, temporary secretary.

There were representative women from the following states: Oklahoma, Missouri, Illinois, North Dakota, Michigan, Colorado, California, Idaho and Arkansas. Many of these women are very strong characters in their respective states and are recognized as financiers. They also represent the various lines of agriculture. Mrs. Fred Osborn of Ann Arbor, Mich., is a prominent vegetable gardener and is the only lady who is member of the National Vegetable Growers' Association. She cultivates large tracts of celery just in the suburbs of Ann Arbor and handles vegetables in wholesale lots. Mrs. Clark

Kelley of Devil's Lake, N. Dak., is recognized throughout the state as one of the financiers and business managers of the day. Another Mrs. Kelley of White Hall, Ill., has built up a substantial poultry business, and I take if for granted that we all know that some of our Missouri women have done equally as well.

Great interest and enthusiasm was manifested, not only by the press, but by the persons interested in the agricultural world when it became known at Tulsa that such an organization of which I have just spoken had been planned. Many and great were the things predicted for the future of the organization. I trust that every member of the Missouri Women Farmers' Club may be present at Wichita next October and have a voice in perfecting a permanent organization.

FARM LABOR IN OTHER STATES.

(Ida M. Fischer, Shenandoah, Iowa.)

One of the hardest problems the farmer has to face is that of labor. And the problems of the woman farmer in this regard are not different from those of her fellow farmers. The conditions with which I am most familiar are those that prevail throughout the corn-belt states, and it is to conditions of farm labor in these states that I shall confine myself.

One way or another, every farmer manages to get along with or without the labor he needs. Many a farmer is obliged to give up his plan of farm management because he is unable to get as much or as efficient labor as he would like. Many farmers are changing from the one or two-crop systems to a system that includes cattle feeding, sheep feeding, hog raising or dairying, so that having efficient labor they can keep it employed with a profit the year round. With corn, wheat, oats and hay only as principal crops, there is a great demand for labor during June, July and part of August, with a lull until September, when fall plowing and the sowing of winter wheat again increases the demand. In November and December—corn-gathering time—comes another period of demand. From that time until spring opens the grain farmer has a period of comparative rest—a period in which he perhaps employs no extra labor at all. On the other hand, the combined grain and stock farmer or feeder finds it necessary to keep at least one extra man for every 160 acres. Even with such an arrangement it is no easy matter to plan farm work to distribute labor equally throughout the year, as any farmer knows who has corn to "lay by," alfalfa, oats and winter wheat to cut, all at the same time.

Fortunate is the man who has sons of his own to carry on the labor of his farm or can borrow the sons of his neighbors. If he must depend upon the man who is here today and there tomorrow, his grievances are indeed many. It behooves the farmer, therefore, to so manage his farm that having found an efficient man he can keep him the year around. The fact of the matter is that the efficient man is not one who is here today and there tomorrow. Such a life is to him neither pleasant nor profitable. The short time work is then left largely to the man who is not so capable.

As to wages, the efficient man rarely receives all he is worth, whereas the inefficient man always receives more than he is worth. Both receive the wages customary in that community, which may vary from $1 to $3.50 per day or from $25 to $45 per month. In one community a man may receive $35 per month, have his horse or his horses fed and shed room provided for his buggy. In another community he may receive $30 per month and not be permitted to have a horse of his own nor the use of one of his employer's horses.

Some farmers have found it to their advantage to build comfortable cottages for the use of the married man and his family, and have given a garden spot, milk and eggs for family use. In many instances this arrangement has proved satisfactory both to the farmer and to his man. In other instances it has not proved satisfactory, as is shown by the empty cottages that are to be seen as one drives along the country roads.

Some of you may have read the interesting and amusing discussion that was carried on in the Breeders' Gazette during the past year in regard to the proper housing and treatment of the hired man. The discussion was opened by a woman whose description of the table manners of the hired men she had known equaled some of the descriptions of farm life as they appear in Hamlin Garland's "Main Traveled Roads." The discussion was closed with the remark that the only thing necessary to do in any case is to observe the Golden Rule, "Do unto others as you would have them do unto you." It is safe to say that where this rule is observed by all parties concerned there is no great problem of farm labor.

THE INTERNATIONAL CONGRESS OF FARM WOMEN HELD AT TULSA, OKLAHOMA.

(Miss D. Adella Blew, Montrose, Mo.)

I assure you it was a great pleasure to represent the Missouri Women Farmers' Club at the International Congress of Farm Women. And I will take this opportunity to thank you for both the honor and the privilege. The International Dry Farming Congress and the International Congress of Farm Women, together with the International Soil Produce Exposition, made the last week of October a great week for Tulsa, Okla., and a splendid school of instruction for her thousands of visitors and delegates.

The most important of these, to us, was the International Congress of Farm Women.

I received many impressions and learned many things which I would like to bring back to you. One is the great need and value of the organization of our farm women. The American farm woman is not awake to her responsibilities nor living up to her possibilities. The women of the European countries have far surpassed us—they are most thoroughly and efficiently organized in their efforts to promote better rural conditions. Their organizations are officially recognized by their respective governments and oftentimes given financial aid and support. The great European International Congress of Farm Women, held at Ghent, Belgium, last year, was financed by the government of that progressive little kingdom, and in a most splendid way. Instead of taking the Congress to some large church or auditorium—as we do in America—the government had erected a number of spacious buildings and most splendidly equipped them for the use of the International Congress of Farm Women. Our president, Mrs. Belle v'D. Harbert, who attended this congress at her own expense, representing the American Women's Congress, told us she was simply amazed at what she saw and learned. Instead of a few hundred delegates, as we have, their delegation numbered into the thousands, and twenty different nations were represented.

We of the American International Congress of Farm Women are hoping and believing that the time will come when our congress will be officially recognized by our United States Government and become a connecting link between its Department of Agriculture and the woman on the farm. The need of such a link was demonstrated when Miss Marie Willoughby, official from the United States Department of Agriculture, in her address told us of the letter Secretary Houston had sent out to the farm women asking how this department could be more helpful to them. The fact was here revealed that few of our farm women had seen or heard anything of this very important letter. One of our women rather wittingly remarked that a directory of farm women be furnished Secretary Houston, that hereafter when he wanted to communicate with farm women he would know to whom to address his letters. Miss Willoughby urged the women to answer this letter. The International Congress of Farm Women also instructed its president and secretary to write an official letter to Secretary Houston asking, first, that a bureau be established devoted to the interests of the farm women; second, that a traveling school be provided for the rural communities; third, aid in establishing the Red Cross rural nursing service in the rural districts, that it may be possible for these communities to have skilled nurses to care for their sick and who could teach, not only the children in the schools, but also the mothers in the home the laws of hygiene, the care of the sick and the proper feeding of children, etc.; fourth, to ask for such an arrangement and classification of the information and bulletins already compiled by the department that they will be more accessible to the farm women.

Much of the investigation the department has made in the interests of better homes and better living, and its many valuable bulletins are practically useless because unavailable to the average housewife, who either does not know of them or how to get them.

The congress urged the farm women who were desirous of better rural conditions to write Secretary Houston and express their wishes. The letter had to be in by November 15th. And it is hoped many saw the wisdom of asking for the things suggested by the International Congress of Farm Women, as in unity there is strength. We are going to get what we want when we want it bad enough—you know women always do. If, as a recent correspondent wrote Secretary Houston, that "the 'farm woman' has been the most neglected factor in the rural problem and she has been especially neglected by the National Department of Agriculture" is true—and we believe it is—isn't the farm woman a wee bit responsible for it as well as man to blame? Heretofore she has not taken time to think of, much less insist, that the world appreciates the economic value of the farmer's wife and the important factor she is in the world's work. Surely the farmer's wife, who has given to the world its greatest wealth of brain and brawn and as keeper of the rural home from which come so many of our nation's great men, merits the first thought and consideration of both family and state.

The International Congress of Farm Women has no higher ambition than to be of real service to humanity by promoting the dignity, happiness and usefulness of the farm woman in her rural home.

The third convention of the International Congress of Farm Women was held at Tulsa, Okla., October 27 to 31, 1913, in the First Presbyterian Church. The congress was formerly opened Monday afternoon, the president, Mrs. Belle v'D. Harbert of Magnolia, Col., presiding. The greater part of the afternoon was taken up by the several addresses of welcome and greetings brought us from foreign countries by their distinguished representatives. Governor Cruce brought us a message and a welcome for the State of Oklahoma. Hon. W. R. Motherwell brought greetings from the International Dry Farming Congress. There were also greetings from many nations, including Brazil, Belgium, Hungary, China and Roumania. It is needless to say that both the man and the message of these distant countries were interesting and greatly appreciated.

Tuesday, the second day of the congress, was crowded full of good things. The first address of the morning was by Dr. Edna Carver of Denver on "Keeping the Right Mental Attitude." She explained the close and sympathetic relation existing between mind and body, and emphasized the fact that a well-poised, happy and contended mind plays an important part in maintaining the physical health of the body. Following Dr. Carver came Miss Fannie Clement, superintendent of Rural Nurses American Red Cross Association, Washington, D. C. In her address she told of the Red Cross rural nurses and their work and its relation to the child and value to childlife. So many infants die each year through a lack of proper care, feeding, etc., due to a lack of knowledge on the part of the mother. Dr. C. C. Allen, dean of the Kansas City Dental College, Kansas City, Mo., gave an address on "Oral Hygiene and its Relation to the Child," setting forth the necessity of caring for the teeth of the very young child. Tuesday afternoon Mrs. Marie T. Harvey, in an illustrated address, showed us the possibilities of the one-room school as an efficient institution. Her pictures and talk would bid the discouraged teacher laboring under most adverse conditions to take heart and go to work for better things.

Wednesday morning Miss Caroline Hunt of the nutrition investigation department of the United States Department of Agriculture, Washington, D. C., gave a very interesting and instructive address on "The Art of Bill of Fare Making."

Thursday morning delegates and visitors to the International Congress of Farm Women experienced the pleasure of partaking of a breakfast scientifically prepared by Miss Hettie Starr, teacher of domestic science in the Edmond, Okla., Normal School. She cooked in full view of the audience, at the same time preparing the dinner meal (part of which was put to cook in a fireless cooker) and lecturing on the subject assigned her, "Three Meals a Day."

Mrs. J. A. McKenzie of Alberta, Canada (sister of Mrs. Harbert), and who is manager of the Canadian Pacific Railroad's large poultry farm, gave a very interesting address on "The Why and How of Poultry Raising as a Successful Business for the Farm," "Dairying and Its Place in the Farm Home," "Dangers to Public Health from Public Milk Supplies and How to Control Them," "Co-operation from the Producer's Standpoint," "Co-operation from the Consumer's Standpoint," "The Furnishing of the Farm Home," and many other very interesting and vital questions to the farm woman were handled by men and women of national reputation. All phases of farm life—material, physical, mental, social and spiritual—were ably discussed.

One of the finest things of the whole congress to me was the inspirational address given by Miss Jessie Fields of New York, national secretary of the Young Women's Christian Association, on "The Life of the Rural Girl." In her address Miss Fields emphasized the need of the awakening and developing of the rural girl into her best possibilities. To me it was a delight to know that at last the splendid organization of the Young Women's Christian Association has seen the wisdom of reaching out and touching the life of the rural girl. Only a few years ago they did not deem Young Women's Christian Association work practicable for the rural communities because of the lack of trained leaders. But the Young Women's Christian Association will now send into communities desiring it a trained secretary to organize and supervise the work. Several rural communities, or even a whole county, may combine in paying the salaries of one of these trained secretaries to supervise the work with their young people. Another splendid address along a line similar to this yet different was given by Miss Anna Taft of New York on "The Church for Farm Girls and Boys." In her address Miss Taft emphasized the fact that the church should be a vital force in the community at work, not only on Sunday, but every day in the week—helping people mentally and physically as well as spiritually. Our president, Mrs. Harbert, in her opening address and at other times during the convention told us many interesting things of her trip abroad, in the interest of the International Congress of Farm Women. She spoke of how delightfully she was received and entertained by the royalty and best people of the progressive little kingdom of Belgium; of how upon every occasion all honor was paid her as the American women's representative. Mrs. Harbert remained abroad four months studying conditions of rural life in seven different European countries. She said the little kingdom of Belgium, which is only about one-sixth the size of Oklahoma, seems to have most ideal rural conditions and is the most beautiful agricultural country in the world. Practically every foot of ground is in a high state of cultivation. They consider farming a profession, not for men only, but women also. The traveling schools play an important part in the life of these rural people. These schools are managed and supported by the government, and some of the finest scholars and instructors in their colleges and universities are sent out to conduct these schools, which vary in length from three weeks to four months. Not only the daughters, but the mothers and grandmothers go to school. And in the evenings the fathers attend the lectures on scientific farming and other kindred subjects. Mrs. Harbert paid a high compliment to the women of Belgium, who, she said, are essentially home women, and above all else, accomplished housekeepers. Yet the women of Belgium find time to study anything and everything for the betterment of their country. Before the close of the convention Mrs. Belle v'D. Harbert, in her charming and sincere way, very beautifully expressed the gratitude and appreciation she felt at the great honor conferred upon her by her re-election to the presidency of the International Congress of Farm Women. She voiced some of the high ideals cherished by the executive for the future of the congress in its broader and larger scope of work.

Mrs. Harbert has been such a gracious and efficient executive and has done so much to promote the growth and power of the organization that the wisdom of her reelection as this splendid body's head was unanimously conceded. Mrs. Belle v'D. Harbert is a woman so altogether gifted and charming that every one instinctively felt that she was the right woman in the right place. She was called upon to face many varied and difficult problems during those five days, but never once did tact and good judgment seem to fail her. The women of the United States and Canada may well congratulate themselves that a woman so intelligent and intensely interested in every problem of rural life and so efficient has been called to the front to champion their cause.

The next and fourth International Congress of Farm Women is to be at Wichita, Kan., in October, 1914. And I hope you will every one plan to go and become a part of this splendid organization. If your home clubs have not yet done so, get them to federate with the International Congress of Farm Women. The federation fee is only one dollar per year; the fee has been kept small so as to bar none. The International Congress of Farm Women should become the recognized head of all farm women's organizations. The time has come when the farm women of all America, expecially of the United States, should be glad and proud to stand together and become recognized as a distinct class whose interests and welfare are deserving of special recognition.

I must not stop without telling you something of the social delight of this congress, for the recent International Congress of Farm Women was one of unusual social brilliancy. Each day a delightful social tea was given in the church parlors by one of Tulsa's many splendid women's clubs. A fitting climax to the social events of the week was the dinner party given by Mrs. Belle v'D. Harbert, president of the International Congress of Farm Women, and Mrs. S. V. McGreery, president of the Oklahoma division. The dinner was in honor of the official delegates fron foreign countries and the governors' appointees from our several states. Those present from Missouri were

Mesdames Harry Sneed and S. Stephens, Sedalia, and Maud Griffith Wood, Harrisonville, and Miss D. Adella Blew, Montrose. After the dinner the entire party attended the governor's reception. A number of the diners stood in the receiving line, which numbered more than half a hundred honor guests, among whom were many foreign dignitaries and several army officers in uniform which added much to the spectacular brilliancy of the occasion.

Friday the delegates were taken to the Page Orphan Home and shown other interesting things of Tulsa. That the familiar adage, "All work and no play makes Jack a dull boy," was appreciated by the people of Tulsa is applicable to farm women as well, was evidenced by the many delightful diversions provided for them. Members of the international congresses departed for their homes feeling that Tulsa had indeed proved herself a very gracious and delightful hostess.

Threshing English blue grass on farm of Mrs. Maude M. Griffith Wood.

Missouri Sheep Breeders' and Feeders' Association.

OFFICERS.

President—E. B. Wilson, Stanberry.
Vice-President—Lyle Atkins, Denton.
Vice-President—J. L. Grigsby, Granville.
Vice-President—W. D. Ashburn, Farmington.
Secretary-Treasurer—Howard Hackedorn, Columbia.

REPORT OF SECRETARY.

(Howard Hackedorn.)

E. B. Wilson, President.

The Missouri Sheep Breeders' and Feeders' Association held their annual meeting at Columbia January 13th and 14th during Farmers' Week, 1914. A very interesting program had been arranged.

E. B. Wilson, president of the association, addressed the members on the "Retrospective and Prospective Sheep Industry," pointing out the past good year and the bright future for the sheep men in Missouri and other states. He laid special emphasis on the fact that the average Missouri farmer should pay a little more attention to the fleeces, as superior fleeces could easily be selected without the loss of mutton qualities, and he cautioned the sheep breeders of great flocks in particular to pay more attention to the wool, which would not detract in any way from their mutton qualities.

L. A. Webster of the American Sheep Breeder and Wool Grower was unable to attend, but sent a very interesting paper reviewing the general status of the sheep industry of the United States, pointing out the fact that the western growers were being somewhat handicapped by the lack of range pastures and the free wool, which would tend to make it necessary for the corn belt farmer to produce more lambs than has been done in the past. He pointed out the healthy condition of the sheep market at present, and could see no factors which would make any permanent slump in the market.

R. A. Turner of Stanberry addressed the meeting on "More and Better Sheep for Missouri." He placed special emphasis on the fact that Missouri farmers have overlooked the sheep as an important factor in their system of farm management. He referred to how very good profits could be made, also to the great value of sheep in cleaning the farm of noxious weeds, and at the same time called attention to the great value of sheep manure.

Frank Sherwood of Shelbyville, Mo., told of his personal experience in the selection of a good show flock, and urged especially that more of the Missouri sheep men get into the game and show their sheep at the State and county fairs.

John Rankin of Tarkio, Mo., superintendent of the sheep at the Missouri State Fair, made a special plea for Missouri farmers to come to Sedalia with their flocks, stating that many of the premiums had been taken out of the State simply because the Missouri men would not come out after them. He stated that there were a number of good sheep in Missouri that would compete successfully with those of other states if the men would simply wake up and put their flocks in show shape. He spoke of the good sales that are made at the Missouri Fair and of the opportunities the State Fair offers to sell the surplus sheep of the flock.

The Missouri Cattle, Swine and Sheep Feeders' Association, in connection with the Missouri Sheep Breeders' and Feeders' Association, made Wednesday a sheep feeding day.

J. H. Starr of Centralia, Mo., who has probably had more experience in feeding sheep than any Missouri feeder, told of many interesting things that they had learned while growing up in the sheep business. One of the most interesting points he made in the feeding talk was of the good success he had had in feeding silage this last year, stating that he had bought silage at $5.00 a ton and considered it well worth the money.

A. K. Miller of the National Stock Yards, East St. Louis, told the Missouri sheep breeders and feeders how they could get their lambs in better shape for marketing, and gave them many valuable pointers in preparing sheep for market and in buying and selling their lambs.

An election of officers took place after the program. E. B. Wilson of Stanberry, Mo., was re-elected president; Lyle Atkins of Denton was re-elected vice-president of the southwest district; J. L. Grigsby of Granville was elected vice-president of the central district; and W. D. Ashburn of Farmington, vice-president of the southeast district; secretary-treasurer, Howard Hackedorn of Columbia.

At the business meeting plans were started for the Missouri Sheep Show at the Pan-American Exposition in 1915, and a committee appointed to look after the special premiums for Missouri breeders. Much interest has been manifested by Missouri breeders in this show of the west.

A resolution was also adopted to the effect that the Missouri Sheep Breeders' and Feeders' Association should hold a banquet during the State Fair, and it is hoped that all sheep men of Missouri and all of the exhibitors at that fair who are interested will be present at this banquet on Thursday night of the State Fair week.

MORE AND BETTER SHEEP FOR MISSOURI.

(R. A. Turner, Stanberry, Mo.)

R. A. Turner.

Having accepted the place on your program proffered by your honorable president, Mr. Wilson, I have taken as my subject "More and Better Sheep for Missouri." Hoping that possibly I might drop a thought that would aid the industry of sheep raising in Missouri, I come before you today.

The Great Shepherd or Master commanded his followers over nineteen centuries ago, in teaching them frugality, to gather up the fragments that nothing be lost. Missouri has a natural environment for sheep, unsurpassed by any other state. The farmers of today are working under soil conditions differing from those of our forefathers, and more and better sheep for Missouri may prove one of the greatest means of soil restoration.

In fact, the farmers of Missouri no longer desire to raise grain without a just remittance to the soil and are anxious to learn the best solution of the problem of maintaining soil fertility. Land is advancing in price, and not only are the owners of the deteriorated farms anxious to get their farms up to the standard, but the richer farmers want some means of maintaining that standard and to derive the greatest profit from the larger investment. To each and all arises the question, what animal is it that will give the best results in increasing soil fertility and give the largest profit from grasses and other crops that must be rotated in order to better the conditions of the soil? The fact that more farmers of Missouri than of any other states are solving that question is the one reason why the sheep industry of Missouri is gaining over that of her sister states. Sheep transfer the weeds and much otherwise waste material into golden dollars and soil fertility. Their droppings are the richest known natural fertilizer. No other animal will clear a farm, improve the looks and in the same time yield the profit. The value of the flock can scarcely be overestimated. As the wealth of the land increases and the population multiplies, just so will the demand for good wool clothing increase.

Again, this will make the sheep a much more desired animal. The wool clip usually pays the annual expense of the flock, and no other animal of the farm has a side issue that pays its annual board bill. The lamb crop comes in as a clear profit and is a great return compared with the investment. I noted a comparison of home markets the evening I prepared this article—hogs, $6.85 to $7.75 per hundredweight; cattle, $6 to $8.60 per hundredweight and lambs $7 to $8 per hundredweight. The sheep is the easiest of the three animals to care for, besides it has been demonstrated time and again that sheep make the greatest gain from the given amount of feed. So again we would impress you with the fact that Missouri needs a few more of the "golden hoofs." The experience of the foreign countries, with their good flocks rebuilding their soil and increasing their bank stock, should indicate the necessity of the same to the farmers of the "Show-me State," and I believe as our land values approach theirs the absolute necessity of the flock will come more into prominence.

Quite natural we look to the man with the pure-bred flock as the main factor for assistance in improvement, since he becomes the founder of new flocks and should be the upbuilder of other flocks. On him other flocks depend for their success or failure. On him we might say the market itself rests. Since quality governs all sales, it behooves him in behalf of his own permanency as a breeder to offer nothing but the best of his production as breeding stock. His culls should go to the butcher regardless of the fact that they are pure bred. In other words, the breeder of registered flocks must work with the other breeders as a unit, as did our forefathers when they threw off their cloak of selfishness or local garb and took on their national garb, realizing as they did that the selfish interest too often destroyed all hope for the betterment of the present and the future condition in general. To the man with the grade flock—be a little more cautious in the selection of the ram you use, since you can breed pounds of wool and mutton as easily as you can feed them. A keen observation of the market demands, and the breeds that supply that demand, means much toward your success or failure as a shepherd. Do not allow some man to place a ram at the head of your flock inferior in quality just because he is registered or eligible, or still worse, because he can be bought for a pittance less money than a good one. It is an acknowledged fact by all breeders of all stock that the best herd or flock headers are cheaper at whatever price. To the nonbreeder of sheep—the opportunity awaits you, make profit out of waste, turn the wrong side of your account book into the right side. As an experiment, turn a few of the nooks and crooks of your farm now useless into a few holiday gifts, and thus bring merriment into your home through the energy of a small flock of sheep.

In conclusion, for that animal, symbol of innocence, sacrificed at the altar, that clad our forefathers with the homespun, that utilizes the waste of the farm to a greater profit than any other animal, that replenishes and redeems our soil from past folly, that helps lift the mortgage yet furnishes us the fiber for our best garments, that gives us a better home environment and a higher social standard for the future—let us unite with renewed energy to place Missouri second to none in production and quality.

EVERY CLOUD HAS ITS SILVER LINING.

(L. A. Webster.)

Fellow Breeders and Shepherds of Missouri: I regret that I cannot well be with you. I wanted to bring you a message of good cheer in regard to the outlook. Furthermore, I wanted to endeavor to convince you that our success in the production of wool and mutton (which I believe is the general topic assigned me) will depend very largely upon the measure of our ability and effort. With all due respect to the breeders and feeders of Missouri and of every other state, I must say we are not masters either of our vocation or the situation—at least, the most of us are not. Very few of us have a national reputation as great sheep breeders, simply because we have not determined to find and breed the best breeding animals in the United States instead of the best in our neighborhood. Perhaps we are not thoroughly posted in regard to the best type and character of our breed and we are not willing to pay the price for the best. Again, we cannot build up our flocks and sell the best individuals, but the buyer usually gets the best.

There are about 625 members of this association—the American and Delaine Record Association—and the world never heard of 600 of them, and never will. Our ideals are not high enough and our purpose not strong enough to attain the highest standards, and only the highest type and standard as recognized by the world's best breeders is worthy a true Missourian or of the breeder in any state.

Missouri has great advantages and opportunities, and I am sure the patriotic young men of your college will demonstrate her possibilities. Some of our present-day breeders have lost faith in present conditions, but quality and merit will sell today for good money. I know a breeder today who will pay $300—yes, $500— for a $500 ram, but he cannot find one. The young breeder, or older breeder, who developes quality and merit will sell at profitable prices at any time. Second or third class stock should be beneath our ambition. Let your standard be the highest and best, weed out all inferior stock, refuse to sell the best ram and the best ewes and you will succeed. We believe in the attainment of a wool and mutton standard with a hundred million people to feed and clothe. With a wool shortage in this country the past year of seventy million pounds the law of supply and demand will help us out.

I am not going to give you a technical discourse on feeding. I will simply say that the shepherd who studies feed rations and then studies his flock while they eat; the shepherd who provides clean feed in clean troughs and clean water, also clean, dry quarters, and uses good sense in a practical way and theory less, will succeed. Remember the father of every scrub flock is a scrub shepherd—and the best breed is the breed that has the best shepherd.

Agriculture, with the live stock industry, is the Missourian's support and prosperity, and should be the source of inspiration among the students and young men of Missouri. There is no more honorable vocation, and I can send you no better message than to urge you to maintain your agricultural life and character, respect and honor your vocation and the farmer who honors his calling. Remember that the farm produces the best men and the best soldiers. Be brave and carry your own burdens through life. Do not forget that when the Romans fell away from the toil of their farms and cultivated ease and luxury the result was the greatest tragedy in history. Do not let this be repeated in Missouri, but so live and so establish and develop your flocks and herds that your life and work will stand as a monument to your memory as a benefactor of your State and fellow men. I wish you success in all your work and undertaking.

FATTENING WESTERN LAMBS AT PURDUE.

(F. G. King, department of animal husbandry, Purdue University. Mr. King was formerly connected with the Missouri State Board of Agriculture.)

Producers of mutton can very logically be divided into two distinct classes: First are those who keep ewes for the purpose of producing lambs and depend on the low cost of keeping ewes and the cheap gains of young lambs to make a profit on the operation. In other words, they are growers of mutton. Second are the men who depend on buying their feeding lambs or sheep and have them on hand during the fattening season only, i. e., they are professional feeders, so to speak, and depend on the difference in original cost and cost of fattening and the selling price of the stock to return a profit on the feeding operation. It is this latter class of stockmen our feeding trials are primarily designed to help. Indirectly, however, everyone who has sheep on the farm will be interested in the results.

The corn belt feeder is considering more seriously each year the best method of disposing of his crops and at the same time conserving the soil fertility. One of the great losses at present on the farm is the failure to secure the full value of the roughage necessarily produced in the growing of grain. While cattle are pre-eminently the great coarse roughage consumers, sheep and lambs, while not eating corn silage in nearly so great quantities as cattle, will consume much larger quantities of hay per 1,000 pounds live weight than will the cattle. As a means, therefore, of disposing of hay sheep are fully the equal of cattle and offer a channel for the disposition of the corn crop and at the same time seldom fail to return a profit on the feeding operation when proper management is used.

Too often, however, we find that proper management is not used. Often a man who has had little or no experience with sheep or lambs goes to market in the fall and brings down a load of lambs or sheep for the purpose of cleaning up the farm, eating weeds, waste grass, maybe a crop of rape sown in the corn, etc. He brings them to his farm, turns them on grass and for a while everything may go well. After a month or so, however, the first storm of approaching winter arrives. The feeder is not prepared for caring for the lambs, he has no shed without turning other stock into the weather, or possibly no shed at all; consequently the sheep are sent to market at a time when grass sheep are still coming and when other feeders under conditions similar to his are also unloading. The result is what could naturally be expected. The market papers report an abundance of "scenery-fed" lambs, and there are more recruits added to the force of farmers who say "sheep don't pay." Practically every fall the market has, just as winter sets in, a flood of lambs that have been running in cornfields or late pastures and that are not more than half fat and either go to the packers at almost feeder prices or are reshipped to the country for further feeding, but usually, in either case, at a loss to the former owner. Often, too, more sheep are bought than can properly be cared for, and when winter comes part of them must be put on the market. Do not understand me to say that having sheep or lambs run on the green forage is a mistake, because it is not. In fact, it is the very thing to do. Some of the cheapest gains that can possibly be made on any class of stock can be made with lambs on a good fall pasture, and often very fat lambs are made in this way. But it is very seldom that the novice in the business is the man that gets them, but rather the older hands in the business who have learned the ups and downs of the trade. To get the cheap gain on fall pasture is one of the sources of profit to the lamb feeder, but the mistake must not be made of putting the lambs on the market in an unfinished condition so that they do not sell for enough to return a profit above the cost of lambs, feed and shipping. The owner should be in a position to put the lambs on feed until they have become fat enough for market. It is the fattening period when no green feed is available with which our experiments deal.

The trials are conducted in a shed 22 feet deep and 112 feet long with a feeding alley six feet wide along the back side of the shed. The shed space, 16 feet by 112, is divided into eight equal divisions, thus allowing each lot a shed 16 by 14 feet. In addition to the shed room each division has an open lot 14 by 28 feet. Therefore each lot of lambs has a space 14 by 44 feet, 16 of the 44 feet being covered with a shed open to the south. Fattening lambs do not require warm quarters. The wool helps to keep them warm and the heat formed in the digestion of their food keeps them sufficiently warm that no great attention need be paid to getting a warm barn. In fact, fattening lambs will make a more rapid and economical gain when the atmosphere is cool. An open shed with an abundance of fresh air and sunshine is far preferable for fattening sheep than a tight barn that has a tendency to cause a heated, damp atmosphere. Sheep want clear, fresh air and lots of sunshine. But they cannot endure wet feet or damp coats. Therefore the shed should be dry. Muddy lots are not only disagreeable to the occupants, but may also lead to foot troubles and result in poor gains on the lambs. All things considered, the shed opening to the south, thus giving the lambs dry backs and feet, at the same time keeping the air pure and cool, offers almost as good conditions for fattening lambs as could be desired. In fact, we have had better results when the weather is cold than when warm and we always prefer as much cool air as possible in the fattening pen, but always have a dry place both above and below the fattening lambs.

The animals used in our trials have been western range lambs and have averaged approximately 60 pounds per head when placed on feed. We have been using western lambs because that is the class of lambs on which the feeder must rely for his supply, not only because of numbers, but also because of the fact that native lambs in the fall when not fat enough to be purchased for slaughter are usually so affected with worms that they are not satisfactory as feeders. In other words, all the good native lambs are sold for slaughter and only the diseased or late lambs are to be obtained for feeding. On the other hand, the western lambs are practically free from worms because of the dry climate from which they came and are, therefore, very satisfactory for feeding purposes. We prefer the heavier lambs rather than lighter ones because they are stronger and are ready at once to begin fattening and will finish for market at an early date. For the experienced sheepman small lambs or "pewees" may return a larger profit, but larger lambs are more certain, especially for the less experienced feeders. The death loss among small lambs is higher and will be very much higher if the owner is not a pretty good sheepman. Thus, while the small lamb can be bought cheaper the heavier, stronger lamb is healthier and affords less risk of loss from the dangers that beset the inexperienced sheepman. For this reason we have chosen to use the strong, heavy feeders in our experimental work, and especially so because we knew when starting that some of the rations would not add to the thrift of the lambs. But we desired data on the subject in order to present the matter to readers in a more convincing manner.

Feeding is done regularly twice daily; water and salt are kept before the lambs at all times. More depends on careful feeding with lambs than any other class of stock. When feeding time comes the lambs become restless and uneasy, are always on their feet and moving about. If feeding is not regular the gains are reduced and the lambs do not fatten readily. The troughs where grain is fed must be kept clean. Lambs do not like to eat feed that has lain in the trough and been "mussed" over. Therefore clean feed should be supplied in clean troughs. We sweep our troughs twice daily and never feed anything except fresh, clean feed. Water tubs are cleaned once daily and fresh water supplied both morning and night. Salt is kept before them at all times. Let the salt supply become exhausted for a few days and the desire of the lambs for water begins to decrease and soon the appetite begins to be less sharp, with the result that the quantity of feed consumed decreases and the lamb does not make so satisfactory gains as when salt is kept before them. Of course, salting at regular intervals of a few days is good, but not nearly so satisfactory as keeping it before them at all times.

When starting western lambs on feed it must be remembered that they have never eaten grain and must acquire the habit. We have found oats to be about the best feed for teaching lambs to eat. To each lot of twenty lambs five pounds of oats are given at the first feed. The lambs, which should always be hungry at feeding time, finding the oats in the trough and not greatly different from the finer portion of hay which they have been accustomed to, soon learn to eat. For several feeds oats is the only grain offered the lambs. After they have acquired the taste of grain so they rush at the feed the moment it is offered to them, a few grains of shelled corn per lamb is added to the oats and a little more added each day until it is seldom more than ten days before the lambs have learned to eat shelled corn as readily as they do hay. The grain, however, should never be increased very much until all the lambs are eating well.

After all lambs are eating well the grain is gradually increased until the amount is reached where it is all just cleaned up readily. Lambs are made to clean their troughs before they quit eating. When so much feed is offered that the lambs do not come with a rush for their feed as good results cannot be expected as when everything is cleaned up and the lambs are anxious for the feed. Experimental data from many different sources show that the cost of gains is higher when a self-feeder is used than when the grain is given in quantities that will be readily eaten. Hay is given in such amounts as they will clean up before next feeding time.

In planning our experimental work it was our object to secure some figures in black and white on things that some sheepmen already know. Even when starting into the trial we knew from general experience about what the results would be. Knowing, however, as we did that many men are making just such mistakes as to feed rations such as corn and timothy hay, it was considered advisable on our part to make a comparison as to the feeding value for lambs of corn and timothy hay with corn and clover hay. Timothy hay represents the great class of nonleguminous roughages such as oat hay, wheat straw and to a certain extent corn stover, while the clover hay represents fairly well the leguminous roughages such as alfalfa hay, cowpea hay and soy bean hay. Therefore for the purpose of getting figures on the actual difference in feeding value between timothy hay and clover hay we decided to feed two similar lots of lambs, one on corn and timothy hay and the other on corn and clover hay.

The composition of timothy hay gave us grounds for expecting bad results from its use, but the fact that many men are now using it for fattening lambs led us to secure exact data on its use. Three trials have been made at this place comparing corn and timothy hay and corn and clover hay. The trials lasted 90, 50 and 70 days, respectively. Table I shows a comparison between shelled corn and timothy hay and shelled corn and clover hay.

TABLE I.—TIMOTHY HAY VS. CLOVER HAY FOR FATTENING LAMBS. AVERAGE OF THREE TRIALS.

Ration.	Shelled corn, timothy hay.	Shelled corn, clover hay.
	Pounds.	Pounds.
Initial weight	59.1	59.4
Final weight	72.6	82.2
Gain per lamb	13.5	22.8
Daily gain per lamb	.192	.325
Daily feed eaten:		
Grain	1.02	1.23
Hay	.93	1.41
Feed per pound gain:		
Grain	5.29	3.77
Hay	4.84	4.35
Cost per 100 pounds gain:		
Corn at 40 cents per bushel	$6.90	$4.99
Corn at 50 cents per bushel	7.77	5.63
Corn at 60 cents per bushel	8.64	6.26

Clover hay, $10.00 per ton; timothy hay, $12.00 per ton.
Average length of feeding period, 70 days.

The rate of gain was .192 pounds with the timothy hay and .325 pounds with clover hay. The lambs fed timothy hay did not have as eager appetites as those fed clover hay, as is shown by the daily feed consumption. The lambs fed timothy were very hard to keep on feed. Six or seven weeks of full feeding seemed to be the maximum time the lambs would endure without going off feed. The feed had to be greatly reduced and a laxative administered before the lambs fed timothy hay could be brought back to their feed. The lots fed corn and clover hay were eager for their feed at all times. The lambs fed timothy did not get fat enough to be classed above feeders except in one trial. The lots fed clover hay finished well. Our results with timothy hay justifies a conclusion that if a man has a large quantity of timothy hay and a flock of lambs he had better sell them both before he ruins his lambs. We have quit feeding timothy hay to lambs and we hope everyone else will soon follow our example.

Another roughage we have been trying for fattening lambs is corn silage. There are in the corn belt enough cornstalks to feed three times as many cattle and sheep as we are now feeding. Approximately forty per cent of the feeding value of corn is in the stalk. Under the present system of farming little of the feeding value of the cornstalk is secured. Silage makes use of the entire corn plant and furnishes the stock a succulent feed which is so highly appreciated by good shepherds. Table II shows the results of three trials with adding corn silage to a ration of corn and clover hay.

TABLE II.—CORN AND CLOVER HAY VS. CORN, CLOVER HAY AND CORN SILAGE. AVERAGE OF THREE TRIALS.

Ration.	Shelled corn, clover hay.	Shelled corn, clover hay, corn silage.
	Pounds.	Pounds.
Initial weight	59.4	59.6
Final weight	82.2	82.2
Gain per lamb	22.8	22.6
Daily gain per lamb	.325	.323
Daily feed eaten:		
Grain	1.23	1.19
Hay	1.41	.90
Silage	....	.94
Feed per pound gain:		
Grain	3.77	3.68
Hay	4.35	2.80
Silage	....	2.90
Cost per 100 pounds gain:		
Corn, 40 cents per bushel	$4.99	$4.79
Corn, 50 cents per bushel	5.63	5.28
Corn, 60 cents per bushel	6.26	5.90

Clover hay, $10.00 per ton; corn silage, $3.50 per ton.

It will be noted in Table II that the lambs receiving corn silage did not eat as much corn as those receiving no silage. This was not due to poorer appetites of the lambs fed silage, but to the effect of the grain in the silage which replaced a part of the corn in the grain ration. The rate of gain was so nearly the same in both lots that the difference can very well be ignored. The only marked difference between the two rations was in the cost of gain. Two hundred ninety pounds of corn silage replaced one hundred fifty-five pounds of hay and nine pounds of corn in the feed required to make 100 pounds of gain. This resulted in a slight saving in cost of gains.

We have studied this matter a little farther by trying the effect of adding corn silage to a ration of corn, cottonseed meal and clover hay. The reason for feeding cottonseed meal was that in our many trials with cattle we have found that corn silage replaced the clover hay in the ration to such an extent that it was found necessary to add protein to the ration in a concentrated form. We have been using cottonseed meal as our source of concentrated protein for both cattle and sheep. The effect of adding corn silage twice daily to a ration of shelled corn, cottonseed meal and clover hay is shown in Table III.

TABLE III.—SHELLED CORN, COTTONSEED MEAL, CLOVER HAY VS. SHELLED CORN, COTTONSEED MEAL, CLOVER HAY AND CORN SILAGE.

Ration.	Shelled corn, cottonseed meal, clover hay.	Shelled corn, cottonseed meal, clover hay, corn silage.
	Pounds.	Pounds.
Initial weight	59.3	59.4
Final weight	84.0	83.8
Gain per lamb	24.7	24.4
Daily gain per lamb	.353	.349
Daily feed eaten:		
Grain	1.24	1.22
Hay	1.44	.73
Silage		1.36
Feed per pound gain:		
Grain	3.52	3.50
Hay	4.08	2.08
Silage		3.91
Cost per 100 pounds gain:		
Corn, 40 cents per bushel	$4.98	$4.65
Corn, 50 cents per bushel	5.49	5.17
Corn, 60 cents per bushel	6.01	5.69

Clover hay, $10.00 per ton; corn silage, $3.50 per ton.

The addition of silage to the ration did not add to the rate of gain. In one trial out of three the silage added to the rate of gain, but in the other trials the faster gain was made when no silage was fed. The appetites of the lambs were good at all times. In one trial the lambs receiving no silage consumed more grain, but in the other trials the total grain consumption was the same in both lots. In feed per pound gain there was little difference between the two lots except that 3.91 pounds of silage replaced 2.00 pounds of hay. When cost of gain is considered, the silage effected a saving of 33 cents per 100 pounds gain with corn at 40 cents per bushel; 32 cents per 100 pounds gain with corn at 50 cents per bushel, and 32 cents per 100 pounds gain with corn at 60 cents per bushel. The lambs fed the silage sold for 15 cents per 100 pounds more in the first trial and 10 cents per 100 pounds more in the last trial. The best ration we have ever fed has been one consisting of all the corn, clover hay and corn silage the lambs would eat and one pound of cottonseed meal for every seven pounds of corn fed.

ADVANTAGES FROM USE OF PURE-BRED RAM.

(Howard Hackedorn, Missouri College of Agriculture.)

The use of a good sire is one of the recognized principles of improving the live stock. This principle is generally considered to be fundamental by all breeders of live stock, both breeders of pure-bred stock and breeders of animals for the open market. However, some breeders through neglect, or a lack of knowledge and interest in the improved types, use sires which retard the general quality of their flocks and herds rather than advance it.

Judging from the quality of native lambs on the various Missouri markets, lamb producers of this State are realizing more fully each year the economy of investing in good sires. The object of this bulletin is to present data which will show the difference in profits derived from grade ewes bred to an average medium priced mutton type ram as compared with the profits from the same class of ewes when bred to an inferior ram.

A good, strong yearling ram should be able to serve fifty ewes. A good ram when used on a flock of grade ewes is in many cases more than half the flock because he will usually have greater ability to stamp his character on the offspring than will the ewes. So with a small flock of grade ewes, worth from $4.00 to $10.00 per head, one can afford to purchase a good mutton ram. As the value of the ewe flock increases one can afford a higher class ram. It is economy to have a ram of superior character at the head of the flock.

Ewes and Rams Used.—The ewes in this experiment were selected from a load of western ewes, classified as Colorado ewes on the Kansas City market. (Fig. 1.) They showed a predominance of fine wool blood.

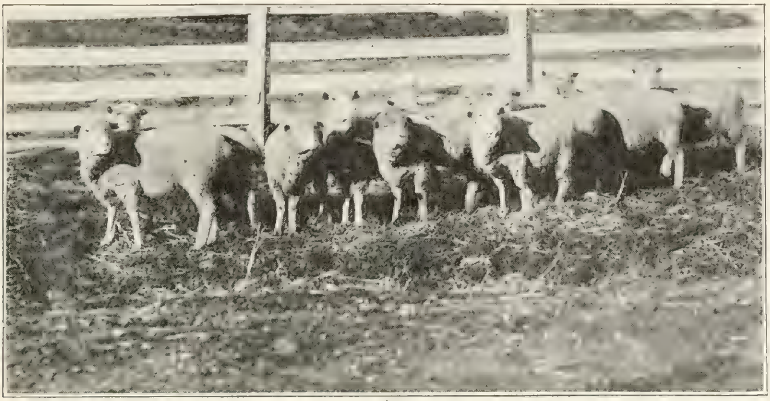


Figure 1. Showing the type of ewes used in the experiment.

Lot 1 consisted of 17 of these ewes which proved to be with lamb when purchased. The sire of these lambs was a "scrub" ram.

Lot 2 consisted of 17 ewes comparable in every respect to those in lot 1 except that they were not pregnant. The ewes in the two lots were as uniform as to size, quality and condition as was possible to select them. The ewes of lot 2 were bred to the Hampshire ram shown in Fig. 2. This ram was a medium priced individual, which any sheep breeder could afford to use on grade ewes. As seen from the cut, this ram lacks breed character and shows only average mutton type. He was a large framed, growthy yearling and weighed 215 pounds in a thin condition of flesh at the end of the breeding season. A ram of this type and quality can be purchased for $30 or $35.

Feed for Ewes.—The ewes in both lots were fed the same rations from the time they arrived at the Experiment Station, September 29, 1911, until the close of the experiment in June. All the ewes were kept on blue grass pasture from September 29th to November 29th. The grass was short on account of the extremely dry summer of 1911.

The ewes were fed in dry lots on clover hay from November 29th to December 9th. From December 9th until lambing time the ewes were used for another experiment, which made it necessary to feed both lots on several different rations.

The number of ewes from each of the lots 1 and 2, which were fed on these different rations, were kept the same, so the lots were comparable. After lambing until May 15th the ewes of both lots were fed the same ration—alfalfa hay and grain. The grain consisted of shelled corn, 6 parts; wheat bran, 3 parts, and old process linseed oil cake, pea size, 1 part, by weight.

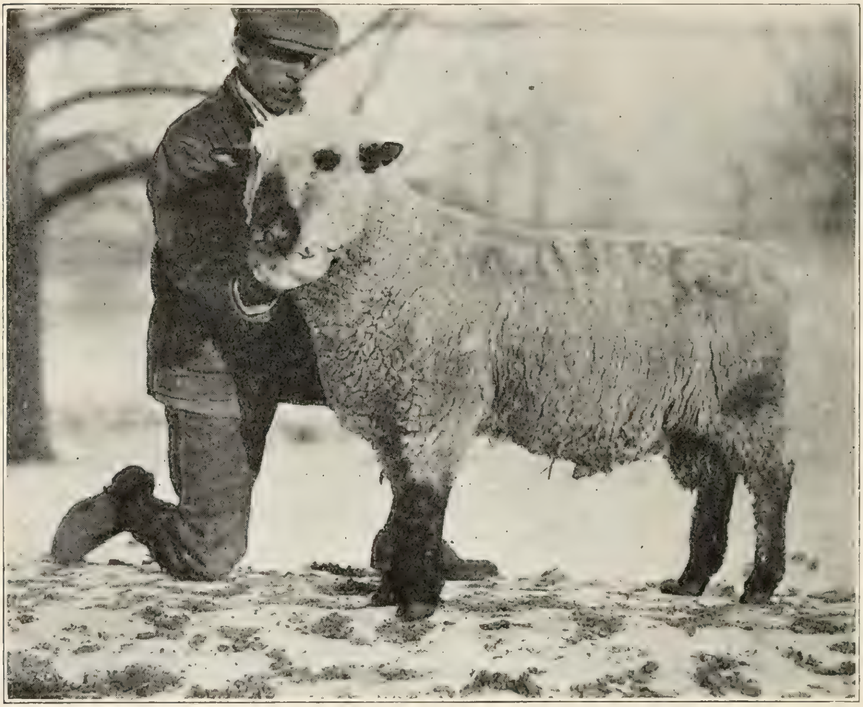


FIGURE 2. THE SIRE OF THE LAMBS OF LOT II.

The lambs sired by this ram sold for $7.35 per 100 pounds as compared with $4.50 per 100 pounds for lambs sired by the scrub ram.

On May 15th both lots of ewes were put on blue grass pasture without grain.

Feed for Lambs.—The lambs were fed grain in creeps as soon as they began to eat. The lambs in lot 1 were first fed grain at an average age of 9.5 days, and the lambs in lot 2 at an average age of 9.7 days. The lambs received all the grain they would clean up from one feeding time to the next. They were fed fresh grain every morning and evening.

The grain fed the lambs from lambing time to June 1st consisted of coarsely ground corn, 6 parts; wheat bran, 3 parts, and old process linseed oil cake, pea size, 1 part, by weight. The ration was changed June 1st to ground corn, 6 parts, and oil cake, 1 part by weight.

The lambs ate some hay with the mothers, but this was charged to the ewes.

Salt and Water.—Clean salt was kept before the ewes.

Fresh, clean water was supplied the ewes and lambs twice daily in galvanized iron tubs.

Weight of Ewes.—The average weight of the two lots of ewes are given in Table I.

TABLE I.—WEIGHT OF EWES, SEVENTEEN EWES IN EACH LOT.

	Lot I. Ewes bred to inferior lamb.	Lot II. Ewes bred to superior lamb.
Average initial weight per ewe December 9th	93.17	95.03
Weight per ewe after lambing	92.35	98.29
Loss or gain per ewe after lambing	.82 loss	3.26 gain
Average final weight per ewe June 22nd	85.00	85.27
Average total loss per ewe	8.17	9.76

The difference in weight of the ewes throughout the experiment was slightly in favor of lot 2. This difference is too small, however, to account for the difference in the lambs.

So far as could be determined from observations made at weighing time, the ewes in each lot suckled their lambs equally well. Hence the difference in condition and weight in the lambs could not be attributed to the difference in the amount of milk they received from their mothers.

Weights and Gains of Lambs.—Table II shows the difference in weights and gains of the two lots of lambs.

TABLE II.—WEIGHTS AND GAINS OF LAMBS, EIGHTEEN LAMBS IN EACH LOT.

	Lot I. Lambs sired by inferior ram.	Lot II. Lambs sired by superior ram.
Average age in days per lamb June 22nd	122.50	93.61
Average birth weight per lamb, pounds	8.79	9.75
Average final weight per lamb, pounds	56.22	59.72
Average total gain per lamb, pounds	47.43	49.97
Average daily gain per lamb, pounds	.387	.533

The above figures show that the lambs in lot II made an average total gain at the average age of 3 months (93.61 days) of 2.54 pounds more than the lambs in lot I at the average age of 4 months (122.5 days).

The lambs sired by the better ram averaged 28.89 days younger than the other lambs and the final weight of the former were 3.5 pounds greater, illustrating the great advantage derived from a good sire. As shown in the last line of the table, the lambs which were sired by the superior ram made an average daily gain of .532 pounds as compared with .387 pounds daily gain made by the lambs sired by the inferior ram, or 26.6 per cent greater gain in favor of lambs sired by the better ram.

It was not possible to obtain the weights of the lambs at exactly the same age. Table III shows the weights and gain of the lambs at practically the same age, however—the difference between the two lots being only .89 of a day in favor of lot 1. This difference is so small that it does not cause any material difference in the results.

TABLE III.—WEIGHTS AND GAINS OF LAMBS AT THREE MONTHS OF AGE EIGHTEEN LAMBS IN EACH LOT.

	Lot I. Lambs sired by inferior ram.	Lot II. Lambs sired by superior ram.
Age in days	94.50	93.61
Average weight at birth	8.79	9.75
Average weight at 3 months of age	50.33	59.72
Average total gain	41.54	49.97
Average daily gain	.439	.533

The above table shows that at practically the same age the lambs sired by the better ram were 9.39 pounds heavier and made a total gain of 8.43 pounds more. In general, younger lambs will make a greater daily gain than older ones providing they have sufficient feed and that they are comparable in condition. Thus the difference in the average daily gain presented in Tables II and III of the two lots of lambs can be partially accounted for.

Feed Consumed by Lambs.—The difference in the amount of grain consumed by the lambs is more marked that the difference in their weights.

Table IV shows the feed consumed by lambs.

TABLE IV.—FEED CONSUMED BY LAMBS FROM BIRTH TO JUNE 22.

	Lot I. Lambs sired by inferior ram.	Lot II. Lambs sired by superior ram.
Total pounds grain for 18 lambs	758.00	475.00
Total pounds grain per lamb	42.11	26.39
Average pounds grain per day per lamb	.34	.28
Average pounds grain per 100 pounds gain	88.78	52.81

The above table shows the total amount of grain consumed by the lambs in lot I to be 59 per cent more that that eaten by lot II. This illustrates the economy of the improved sire.

The lambs of lot I ate 88.78 pounds of grain per 100 pounds gain, while those of lot II required nearly one-third less than that amount, or 52.81 pounds grain per 100 pounds gain.

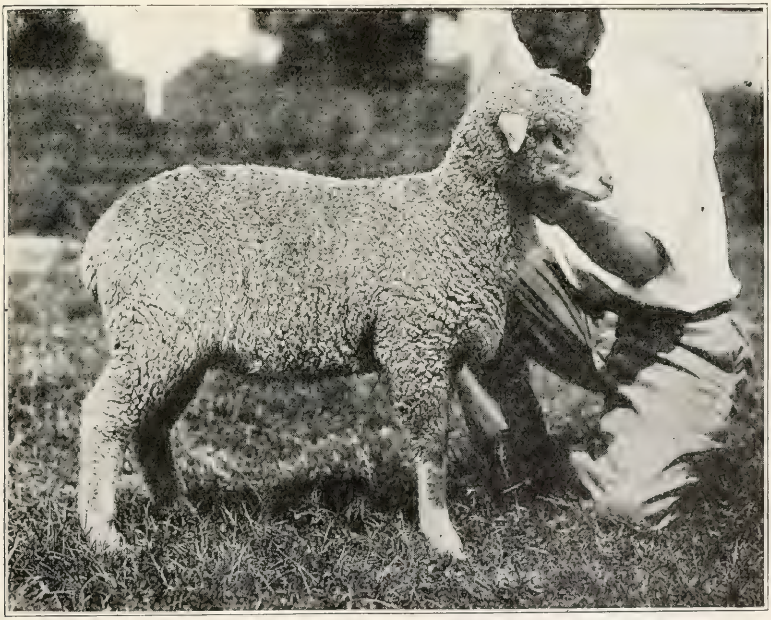


FIGURE 3. REPRESENTATIVE LAMB SIRED BY INFERIOR RAM. SIDE VIEW.

This type of lamb sold for only $4.50 per 100 pounds.

The lambs in lot I were 28.89 days older than the lambs in lot II, and it should be borne in mind that older lambs in the same condition of flesh require more grain per pound gain than the younger ones.

Table V shows the grain consumed by the two lots of lambs from birth to a little over 3 months of age. The difference in the average age of the two lots being only .89 of a day.

TABLE V.—FEED CONSUMED BY LAMBS AT THREE MONTHS OF AGE, EIGHTEEN LAMBS IN EACH LOT.

	Lot I. Lambs sired by inferior ram.	Lot II. Lambs sired by superior ram.
Average age in days	94.50	93.61
Total pounds of grain eaten by eighteen lambs	506.00	475.00
Total grain per lamb	28.11	26.39
Average grain per lamb per day	.29	.28
Average grain per 100 pounds gain	67.66	52.81

The difference in the feed consumed by the two lots of lambs at the same ages is small. The greatest difference is that the lambs sired by the superior ram required 14.85 pounds less grain per 100 pounds gain than did the lambs sired by the inferior ram. The lambs of lot I required 28 per cent more grain for the same gain than did the lambs of lot II.

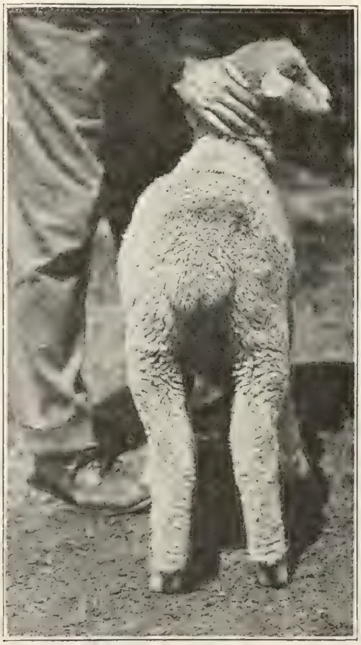


FIGURE 4. REAR VIEW OF LAMB BY SCRUB SIRE.
The same lamb shown in figure 3. The narrow, raw back, deficient hind quarters and long legs decrease the per cent this lamb will dress out.

After lambing the ewes were fed grain and hay in such amounts as were necessary to keep them in good, thrifty condition. As seen in the last line of Table IV, the average daily rations were practically the same. The difference in total hay and grain consumed by the two lots of ewes can be accounted for by the earlier lambing of lot I. Ewes suckling lambs require more feed in dry lot than pregnant ewes.

TABLE VI.—FEED CONSUMED BY EWES FROM LAMBING UNTIL TURNED TO PASTURE.

	Lot I. Ewes bred to inferior ram.	Lot II. Ewes bred to superior ram.
Average number of days on feed in dry lot	84.50	55.61
Total pounds of hay eaten	3,746.50	2,341.50
Total pounds of grain eaten	1,211.25	858.50
Total pounds of hay eaten per ewe	220.38	137.70
Total pounds of grain eaten per ewe	71.25	50.50
Average daily ration of hay per ewe	2.608	2.476
Average daily ration of grain per ewe	.843	.908

The greatest factor affecting the difference in the profits of the two lots is the selling prices of the lambs, the lambs of lot I selling for $4.50 per 100 pounds at the National Stock Yards, East St. Louis, Ill., while those of lot II brought $7.35 per 100 pounds. The difference in the prices of these two lots is due to the quality and conformation of the lambs.

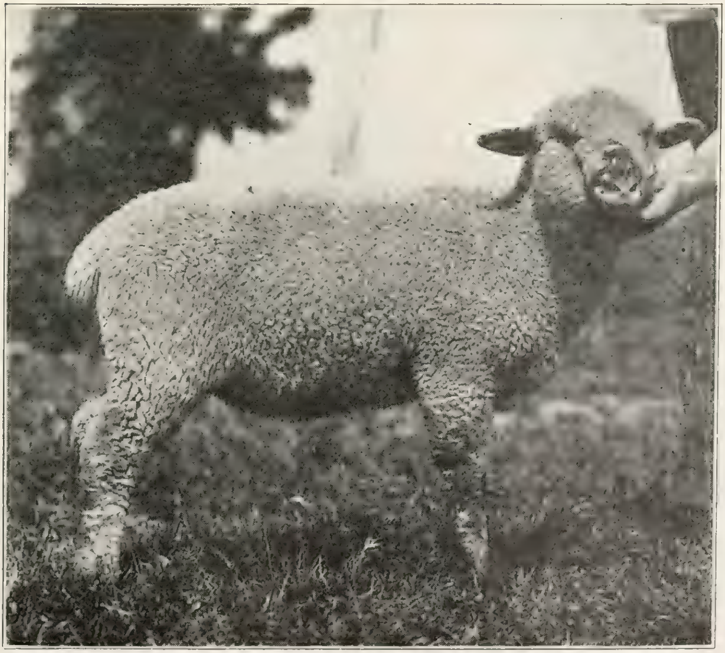


FIGURE 5. REPRESENTATIVE LAMB SIRED BY MUTTON RAM. SIDE VIEW.

The kind that sold for $7.35 per 100 pounds. This type of lamb will dress out a high per cent of carcass and the carcass will be of good quality.

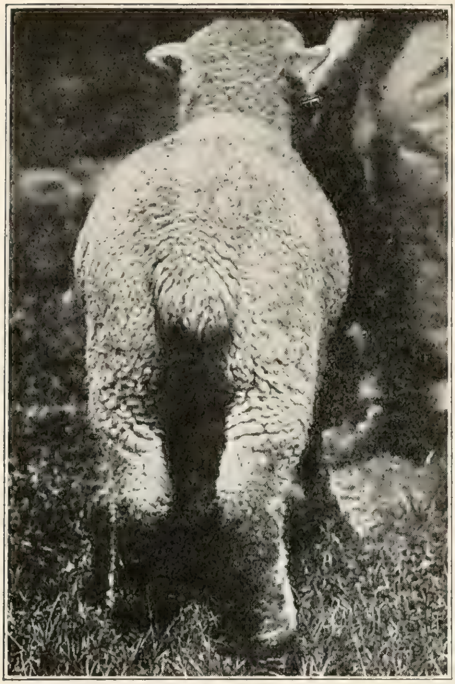


FIGURE 6. REAR VIEW OF WELL BRED LAMB.

The same lamb shown in figure 5. The broad, thickly fleshed back and full hind quarters of this type of lamb are desired by the butchers.

The lambs in lot II were broader, thicker, smoother, more full and deeper in the hind quarters than those of lot I, as can be seen in figures 3 to 6, which show side and rear views of representative lambs of each lot at the time they were marketed. The butcher or packer prefers the type of lamb shown in figures 5 and 6 because it will dress out a higher per cent and present a better carcass.

Figures 7 and 8 show a number of representative lambs from each lot. These pictures were taken on the same day. The lambs of lot I were 8 weeks old while those of lot II were only 4 weeks old. The lack of mutton conformation in the lambs of lot I is especially noticeable.

SUMMARY.

1. The average total gain of the lambs sired by the better ram was 2.54 pounds more at 3 months (93.61 days) of age than the average total gain of the lambs sired by the inferior ram at 4 months (122.5 days) of age.

2. The average daily gain of the better lambs was 26.6 per cent greater than that of the lot of lambs sired by the inferior ram.

3. The feed eaten by the lot of lambs sired by the inferior ram was 59 per cent more than that eaten by the lambs sired by the superior ram. The grain eaten per 100 pounds gain was 88.78 pounds for the former lot and only 52.81 pounds for the latter.

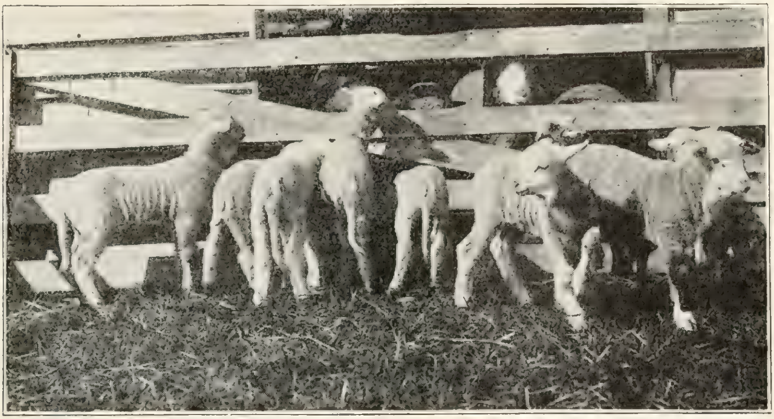


FIGURE 7. LAMBS SIRED BY THE INFERIOR MUTTON RAM AT THE AGE OF EIGHT WEEKS.

This lot of lambs at four months of age did not weigh as much or make as great a total gain as did the lambs of lot II at the age of three months.

4. Both lots of lambs consumed about the same amount of grain at the same ages, the advantage being slightly in favor of the lambs of the better mutton type.

5. At 3 months of age the lambs sired by the ram of mutton type were 9.39 pounds heavier and made a total gain of 8.43 pounds greater than the lambs sired by the inferior ram. The lambs from the scrub sire required 2.8 per cent more grain per 100 pounds gain than did the other lot.

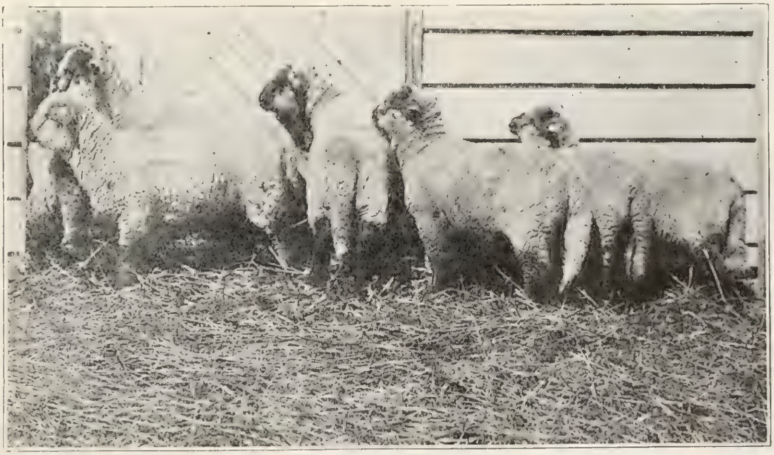


FIGURE 8. LAMBS SIRED BY AN AVERAGE MUTTON TYPE RAM AT THE AGE OF FOUR WEEKS.

This lot of lambs at three months of age weighed 3.5 pounds more per head than the lambs of lot I at four months of age.

6. The average daily rations for the two lots of ewes were about the same. Lot I required more feed because ewes require more feed when suckling lambs than pregnant ewes, and the lambs of lot I on an average were 28.89 days older than those of lot II.

7. Lambs sired by the good ram sold for $7.35 per 100 pounds while those sired by inferior ram brought only $4.50 per 100 pounds.

8. The lambs of lot II were thicker fleshed, smoother, broader in back and lighter in the pelts than those of lot I.

PREPARATION OF CORN FOR FATTENING LAMBS.

(John M. Evvard, formerly of Missouri; now assistant chief in animal husbandry, Iowa Agricultural College and Experiment Station.)

Is it profitable to shell or grind the corn which is fed to fattening lambs? How about corn and cob meal? Should one feed the same preparation during the whole period or change it, aiming always to keep the "feed a little bit better than the lambs? Does the cob whem ground have a feeding value? These were some of the questions we sought to answer when we undertook the investigation regarding the best way in which to prepare corn for the lambs we are preparing for market.

The relative efficiency of the different preparations has been tested in two separate years. The results are quite impressive, in that they demonstrate that there is a right and a wrong way to prepare corn when feeding same to young growing sheep.

Some 300 lambs were fed in the experimental lots in the year 1913-14. To place the practical figures of this trial definitely before you we present Table I.

TABLE I.—HOW SHALL WE PREPARE CORN FOR FATTENING LAMBS?

Comparison of preparation methods.
Animal husbandry section, Iowa Experiment Station.
Seven groups of forty lambs, each averaging 52 pounds at beginning. Fed November 18, 1913, to February 26, 1914, 99 days.

Ration.	Lot 1. Whole ear corn, cottonseed meal,* silage, alfalfa.	Lot 2. Broken ear corn, cottonseed meal,* silage, alfalfa.	Lot 3. Corn and cob meal, cottonseed meal,* silage, alfalfa.	Lot 4. Shelled corn, cottonseed meal,* silage, alfalfa.	Lot 5. Ground corn, cottonseed meal,* silage, alfalfa.	Lot 6. Whole, broken and ground corn, cottonseed meal,* silage, alfalfa.	Lot 7. Broken ear corn, alfalfa.
Total gain	1,290.3	1,316.3	1,356.7	1,336.3	1,272.3	1,396.3	1,372.0
Average daily gain	.326	.332	.343	.337	.321	.353	.347
Average daily feed:							
Corn grain	1.28	1.26	1.19	1.26	1.22	1.26	1.36
Oil meal*	.15	.15	.15	.15	.15	.15	......
Alfalfa	.59	.59	.59	.59	.59	.59	.91
Silage	.73	.73	.73	.73	.73	.73	......
Feed for 100 pounds gain:							
Grain, corn	392.3	380.1	346.6	371.9	378.4	356.3	391.8
Cob meal	......	......	68.8	......	......	......	......
Oil meal*	45.8	44.9	43.6	44.2	46.5	42.3	......
Alfalfa	180.8	177.2	172.2	174.9	183.5	167.4	263.4
Silage	224.6	220.1	213.6	216.8	227.8	207.5	......
Cost 100 pounds gain	$5.95	$5.86	$5.77	$5.81	$6.18	$5.51	$5.43
Initial cost per lamb, hundredweight	6.14	6.14	6.14	6.14	6.14	6.14	6.14
Shrinkage in shipment, per cent	6.17	5.98	7.67	7.65	6.94	8.16	8.80
Dressing per cent	50.00	50.00	49.03	49.97	49.77	50.28	49.10
Ames selling value, hundredweight	7.24	7.26	7.13	7.13	7.18	7.09	7.04
Profit per lamb	.99	1.04	.98	.96	.85	1.04	1.01

*Cottonseed meal fed in place of oil meal lasts 20 days.

Prices charged for feeds: Corn a bushel, whole ear, 54 cents; broken, 55 cents; corn and cob meal, 60 cents; shelled, 56 cents, and ground, 59 cents, for a bushel of 56 pounds of grain; oil and cottonseed meals, $30; silage, $3.50, and alfalfa hay, $12 a ton.

Chicago selling price, $8.10 on all lots. The Ames value is based on home weights, selling at total Chicago price minus cost of shipment.

It is particularly gratifying for the busy farmer to know that the scoop shovel and the edge of the feeding bunks are all the equipment needed in the efficient preparation of corn for fattening lambs. The more elaborate costly methods of preparation under the conditions existing at the time these trials were run did not compete successfully with the simple natural ones.

The profit per lamb is, after all, the final basis for judgment. We find that broken ear corn takes the lead this year with a profit of $1.04, tying only with the bunch of lambs that received whole, broken or ground corn. This lot VI was fed whole and broken corn at the beginning of the period for about a week or so when the corn was entirely changed to whole ear, and then a little later it was all broken, and finally the last month of the experiment some ground corn was fed in addition to the broken, although at no time did the ground corn exceed more than half of the entire corn grain ration.

Of the straight preparations the ranking would be: First, broken corn; second, whole corn; third, corn and cob meal; fourth, shelled corn, and last, ground corn. This is on the profit per lamb basis.

The cost of gains show in favor of the combination of preparations, with corn and cob meal second. One difficulty with the corn and cob meal was, however, that those lambs shrank heavily going to market, thus tending to lower the profits below those lots which made more expensive gains but shrank less en route to the selling place. By simply taking the cost of gains into consideration one cannot determine the merits of a ration. We must go further; in truth, we must go as far as the sheep feeder goes, namely, to the scales that determine the selling weight at the final market place.

An alfalfa-corn lot was added to this preparation test simply to demonstrate the value of silage and alfalfa vs. alfalfa alone as roughages for fattening lambs. It will be seen under conditions existing at the time this experiment was run that both rations were practically equally efficient at the prices quoted.

The lamb feeding experience of 1912-13 coincides quite closely with that recently gained. The figures for 1912-13 work are given herewith in Table II.

TABLE II.—PREPARATION OF CORN INVESTIGATION, 1912-13.

Animal husbandry section, Iowa Experiment Station.
Six groups of thirty-six lambs, each averaging 68 pounds at beginning. Fed October 29, 1912, to February 26, 1913, 120 days.

Ration.	Lot. 1. Broken ear corn, alfalfa.	Lot 2. Shelled corn, alfalfa.	Lot 3. Ground corn, alfalfa.	Lot 4. Broken ear corn, silage, cottonseed meal.	Lot 5. Shelled corn, silage, cottonseed meal.	Lot 6. Ground corn, silage, cottonseed meal.
Total gain of all lambs	1,142	1,149	1,212	698	703	635
Average daily gain	.264	.266	.281	.162	.163	.147
Average daily feed:						
Corn	1.31	1.31	1.31	1.01	1.01	1.01
Cottonseed meal				.18	.18	.18
Alfalfa	1.19	1.19	1.19			
Silage				1.94	1.94	1.94
Cost of 100 pounds gain	$6.83	$6.88	$6.77	$7.60	$7.65	$8.84
Initial cost of lambs at Ames, hundredweight	6.25	6.25	6.25	6.25	6.25	6.25
Shrinkage in shipment, per cent	2.35	1.48	4.42	4.08	4.93	4.82
Dressing, per cent	51.37	51.44	51.94	52.60	52.14	52.19
Net selling at Ames per hundredweight	8.36	8.44	8.18	8.03	7.91	7.92
Profit per lamb	1.91	1.98	1.79	1.28	1.18	.97

Prices charged for feeds: Corn a bushel, broken ear, 39 cents; shelled, 40 cents; ground, 43 cents; cottonseed meal, $50 per ton; alfalfa hay, $15 a ton; corn silage, $2.60 a ton. All corn on basis of 56 pounds of No. 2 (14 per cent moisture content) corn grain to the bushel.

Chicago selling price, the values being placed by the buyer of the lambs: Lot 1, $9; lot 2, $8.80; lot 3, $9; lot 4, $8.75; lot 5, $9; lot 6, $8.75.

We would conclude from a study of this experiment that broken ear corn is most efficient for fattening lambs as compared to shelled and ground corn. This holds true both for the alfalfa as well as the silage rations. Seven cents greater profit per lamb was secured when shelled corn was fed as compared to broken ear on alfalfa, but ten cents more was made with broken ear corn as compared with shelled corn on silage; at any rate, the showing is in favor of broken corn, because if one even got 7 cents more per lamb he would hardly go to the trouble of shelling the corn at a cost of 2 cents a bushel. It usually costs more than 2 cents a bushel to shell corn. This is especially true under average farm conditions. Of course, there are conditions under which corn can be shelled for a less figure; the actual cost must be taken into consideration when solving local problems.

Ground corn with alfalfa gave somewhat cheaper gains than either the broken or shelled corn, but the lambs shrank heavily going to market so as to reduce the profits per lamb. We presume that the final weight on this lot at home was for some unknown reason abnormally high, even though an average of three individual weights on every lamb was taken in order to compute the average final weight. There is a slight indication, however, that the ground corn fed lambs will shrink more than those fed broken corn or whole ear.

The "ground corn" lot, however, showed up so unfavorably in the 1913-14 feeding trial that it is quite evident that the simpler preparations excel it.

The "ground corn with corn silage" lot made the least profit of the three preparations tried, a still further evidence that the ground corn is not the most economic preparation.

GENERAL SUMMARY.

I. A combination of preparations, happily manipulated by the skilled feeder, should be more efficient than a single preparation taken through the entire period. To illustrate, one can start the lambs out on whole ear corn, change to broken, and finally finish on a mixture of broken and ground, or he could start out on corn and cob meal and finish largely on corn meal. The general aim should be to "keep the feed a bit better than the lambs."

II. Whole and broken corn of the single continuous preparations are both very efficient in that they show a maximum of profits per lamb.

III. Shelled corn is more efficient than the ground, in that the gains are produced more cheaply and the profits per lamb are greater.

IV. Corn and cob meal seems to be very efficient preparations when corn is very high in price. If corn is very cheap, however, it is not so efficient. Peculiarly enough in these trials, when considering the feed required to produce an equal quantity of gain, we find that 100 pounds of ground cobs (comparing corn and cob meal to corn meal) saved 46.2 pounds of ground corn, plus 4.2 pounds of oil or cottonseed meal, plus 16.4 pounds of alfalfa hay, plus 20.6 pounds of corn silage. Assuming that the corn grain is worth one cent a pound, the oil meal one and a half cents, the alfalfa hay one-half cent and the corn silage one-sixth cent, we find that the hundred pounds of cob replaced 63.1 cents' worth of other feedstuffs. This is figured on the basis of home weights. Evidently there is some nutritive value to the cob, bulky and fibrous though it is. Reference to Table I showing the "Feed for 100 Pounds Gain" gives the figures for the basis of these deductions. Unfortunately, the corn and cob meal lot shrank quite heavily going to market, which tended to reduce the profits per lamb even though the cost of 100 pounds gain was smaller than any of the single preparations. The possible big field of usefulness, however, for corn and cob meal is with the wintering ewe or the stock sheep which have a maximum of need for roughage and with which forced feeding is not the object. In other words, where bulky, fibrous feed is wanted for maintenance purposes the corn and cob meal will come into its own when corn is relatively high in price.

V. The shrinkage of lambs en route to market is affected by the method of preparation as well as by the roughage fed. We find, as in our steer feeding work, that if silage (or hay) is fed as the lone roughness that the shrinkages are usually heavier than where a combination of silage and hay are used. The shrinkage en route from home feed lots to market is often such as to make the lambs which had the most economical record at home prove to be the least efficient of all.

VI. Alfalfa is a premier sheep roughage. The addition of silage to alfalfa is the practical thing in the corn belt. Silage should not be fed as a lone roughage for fattening lambs; they should have some leguminous hay along with it. A happy combination of roughages would be either silage with alfalfa or silage with clover.

VII. The profit per lamb is the one thing which we must keep uppermost in our studies of practical feeding trials, because it is the relative showing per lamb which determines how large or little our bank account shall be.

Be Cautious in the Selection of the Ram You Use, Since You Can Breed Pounds of Wool and Mutton as Easily as You Can Feed Them.

Missouri Saddle Horse Breeders' Association.

OFFICERS.

President—James A. Houchin, Jefferson City.
Vice-President—E. A. Trowbridge, Columbia.
Secretary—Rufus Jackson, Mexico.
Treasurer—E. S. Stewart, Sturgeon.

REPORT OF SECRETARY.

(Rufus Jackson, Mexico, Mo.)

Your secretary begs leave to submit the following report of his work and of the general progress of the association during 1913:

Contrary to the expressed views of some, the Missouri Saddle Horse Breeders' Association has since its organization in 1909 accomplished much in its endeavor to promote the interests of the breeder, developer, exhibitor and owner of the saddle horse.

This is substantiated by the following statement of facts:

First—Interest on the part of the saddle horse breeder shows a perceptible increase for the reason that there is a greater demand for saddle horses through the educational campaign launched and furthered by your association and having the hearty and earnest co-operation of its members. A better knowledge of our own resources in the production of saddle horses has been made possible through our annual and other meetings, through newspaper publicity and a more general activity in saddle horse circles.

Second—An increased demand for the finished product should be attributed at least to some extent to the exploitation of the goodness of and the gladness resulting from the ownership of the Missouri saddle horse. For be it known that the

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Note.—Attention is called to frontispiece showing saddle horse demonstration at Columbia during Farmers' Week, 1914.

(Copyrighted 1914 by Ben C. Barnes, Mexico, Mo

REX McDONALD 833—HIS LAST SHOW.

Left to right—Rex McDonald 833, Ben R. Middleton up; Golden McDonald 4642, Tom Bass; Miss Cliff 5524, D. E. Holman; Madison McDonald, James Bufford; Rex Arbuckle 1467, M. Middleton; the Stuart colt, L. B. Barnet. Mexico, Mo., August 15, 1913.

good saddle horses, raised and developed in our State are now a source of profit and pleasure to the whole of America.

Third—There has been gained a place paramount in the public exhibitions of our country through the persistent efforts of your association. The fair associations of not only Missouri, but our neighboring and distant states as well, have been brought to realize that as a drawing card liberal prizes for saddle horses prove the greatest attraction. In this one accomplishment we may point with a sense of pride that since the organization of the Missouri Saddle Horse Breeders' Association in 1909 the prize lists for saddle horse classes have been increased a hundredfold. Prior to that time it was the exception to note in a premium list a prize to exceed fifty dollars in value for saddle horses, and the best horses of that day "showed their heads off" for one hundred dollars, where now the Missouri fair association that doesn't offer at least a one thousand dollar stake for all age saddle horses and liberal prizes in the other classes is not looked upon as one of the live fairs of our State.

The Mexico Commercial Club's guaranteed stake of $1,000 in 1912, with its liberal entrance conditions, marked an epoch in show horse affairs. Following its unqualified success from every standpoint, the enterprising fairs of Missouri and Kentucky offered big stakes in 1913. The Mexico stake was increased to $1,500, and the Missouri State Fair Board, at the suggestion of Secretary Stinson after the plans and conditions had been approved by your association, announced its great stake of $2,500, to be given even on more liberal conditions than had been those of other like events. The conditions provided that all entrance fees above twenty entries should be added to the stake, and this made it worth in all $2,900 and proved the greatest feature event ever staged at the Missouri State Fair.

Rex McDonald 833, famous Missouri saddle stallion. Died November, 1913, the property of Ben R. Middleton, Mexico, Mo.

It is all history and all who care are familiar with the facts here set forth. Details might be given as to the success of the $1,000 stakes, with relatively liberal prizes in the other classes at the Columbia, New Bloomfield, Sturgeon and Knox City fairs; of the liberal prize lists at the Montgomery, Higginsville, Marshall, Independence, Bunceton, Fayette and other of the State's most successful fairs.

Summing up, it may be said that it all amounts to this:

First—It has been conclusively demonstrated that the contests resulting from these great shows have provided an entertainment that is dear to the hearts of not only the Missourians, but to the horse lovers of distant states who have been attracted here through their love of such entertainment.

Second—A saddle horse that can win is no longer a source of outlay. Such a horse is a money maker, and a number of owners this past season finished with a comfortable balance in the bank where heretofore they had been forced to meet the heavy expense incidental to the campaigning of a show stable. While this phase of the situation must be watched and matters securely safeguarded that the exhibiting of saddle horses shall not be commercialized, yet it is true that, primarily, through the efforts of your association, the stable of good saddle horses can be shown now at a profit rather than a pastime as was entirely the case a few years ago.

Third—The benefits resulting to the breeders of saddle horses through these improved conditions are most apparent. Show horses are worth more money and the breeders and developers are profiting greatly thereby. Many specific instances could be mentioned where the increased interest in the exhibiting of saddle horses has been the cause of high-priced sales, and in a number of these the breeder of the horse sold has been the particular and sole beneficiary.

Your board of directors held several meetings this year. The most important was that held at Jefferson City May 24th.

Four horses from reader's left to right: Russell Moore on Queen of the Denmarks. Tom Bass on Golden McDonald. John Woods on The Gingerbread Man. John Hook on My Major Dare. Missouri State Fair, $2,500 stake, 1913.

At this meeting the matter of an incorporated organization with a purpose of better serving the interests of the exhibitor was discussed. Here was launched the Missouri Saddle Horse Breeders' and Exhibitors' Association, and though not organized as yet, it can and should be pushed to a successful conclusion. However, to my mind the most important part of that day's work was in the selection of a list of men known to be capable, in the fullest sense of that word, that might be recommended as judges at the various fairs of Missouri and the adjoining states. As a result of this, this list of names was consulted and these men generally were asked to officiate at many of the most important shows in the west. With not a single exception these men gave satisfaction to exhibitors, fair managements and public alike. It may be said that this step has done more in relieving the tense situation that surrounds the "judge question" than has any one move.

There were sixty members of our association who paid annual dues of one dollar each for 1913. There was a balance in the hands of the former treasurer, W. P. Hawkins, of nineteen dollars, and thirty-one dollars with Treasurer Wallace Estill. There has been expended for stationery and printing $37.15; paid on accounts incurred last year, $12.70; paid for services of stenographer, $8.60, and for stamps and other office expenses, $16.40. There remains in the hands of your secretary $8.00, and in the hands of your treasurer $31.00, a total of $39.00.

As to the expense of the promotion of the new organization, Mr. Houchin is familiar with it. He has paid such out of his own pocket and should be reimbursed by the association.

ADDRESS OF WELCOME.

(F. B. Mumford, dean Missouri College of Agriculture.)

F. B. Mumford.

The University of Missouri and College of Agriculture are behind the Missouri saddle horse. From my point of view the Missouri saddle horse has done as much to put Missouri on the map as any other single thing that has been produced in the State. There is in Missouri the best opportunity for developing the best type of saddle horse that can be produced in the United States. There is no question in my mind but that we have here in Missouri the foundation stock, so far as the horses themselves are concerned, and the foundation men to produce and train these horses.

I want to call your attention to a bulletin just issued by the State Board of Agriculture, "The Missouri Saddle Horse," by Prof. E. A. Trowbridge, Rufus Jackson and W. L. Nelson. This publication impresses me as one of the best that the Missouri Board of Agriculture has ever issued. This is true for two reasons: In the first place, it is giving information to the world and to us of our own resources. Here in Missouri we are all too much inclined to look to some far-off country for many of the things we have and to think that others are doing better work than we. Let us all do what we can to exploit our own great resources. Secondly, this bulletin appeals to me because it is well written and by men who know what they are talking about. For the benefit of your secretary I want to say that I read this bulletin from cover to cover, and this is a thing which I do not have time to do very often. I agree with Mr. Nelson that this is a type of bulletin that we ought to be encouraging, so at the last meeting a few of us who were interested in this said to the Board of Agriculture that they ought to get Mr. Jackson and all the saddle horse men in this State to furnish information to add to this bulletin so that in a few years we could issue a more complete publication.

Scene at Missouri State Fair Grounds, Sedalia, 1913. Horses in $2,500 stake.

Your organization, made up of men interested in the saddle horse, is a fine thing for the industry. If we could get together all the people who are interested what could we not accomplish!

The College of Agriculture is starting to pay more specialized attention to the saddle horse, and anything we can do in an educational way we are glad to do. We now have 850 students enrolled in the College of Agriculture, and we propose to give them a chance to see what a good saddle horse is like and to receive first-class instruction in the saddle horse business.

ADDRESS OF THE PRESIDENT.

(James Houchin, Jefferson City, Mo.)

James Houchin.

At out meeting last year at Mexico, when we were discussing the saddle horse, some one asked, "What is the use of having a Saddle Horse Breeders' Association, for we do not accomplish anything?" We had quite a discussion along that line, and I told those present at that time that if there was anything I could do to do the saddle horse industry any good or to arouse more interest in the saddle horse that I was going to do it during the year 1913, and I feel sure that our secretary joined in these sentiments.

Shortly after that meeting we called together the directors of the Missouri Saddle Horse Breeders' Association and held a meeting in Jefferson City, adopted a constitution and by-laws and started out to do some very effective work. We selected a committee of judges who have been used to an extent throughout the State, and I feel that some satisfactory work was done. The secretary, through press of business and ill health, was not able to push forward the matter of organization which we determined upon at that meeting and has turned over to my hands the matter of organizing according to law, the idea being to become a legal corporation. We spent a considerable amount of time and about $50 worth of postage and literature, and a great amount of correspondence was done. As a result we secured some thirty-five subscribers for stock. Most of these gentlemen agreed to subscribe for a share of stock that was to be paid for on demand, if necessary. During the summer press of business compelled me to drop the work and I turned it over to the secretary, and he will report on that.

At the Missouri State Fair, Sedalia, 1913.

For the past year I think that some good has been accomplished. Although in some respects we were just where we were last year, we have no permanent organization, and here we are making a great mistake. The saddle horse today is the most profitable horse the average farmer or breeder can produce. I make this statement after giving the matter careful thought and considerable and practicable demonstration. This is the one breed of live stock that I know of that has no effective, active organization constantly pushing forward its interests, and I feel sure that we all suffer through that neglect.

During the last year there has been a great interest in the saddle horse shows and there has been more money offered for saddle horse classes than in any year in the past, due, perhaps, to some of the work of your organization. As to the future, I believe 1914 is going to be a progressive and active year. Already, in conversation with different state fair secretaries, they have assured me they are going to put on as large stakes, and in many instances larger, than ever, and fair associations which have never given any consideration for saddle horses are going to offer very liberal stakes this year, and this is something this association should be interested in.

We are breeding saddle horses and we ought to put a little money behind it. We ought to have an organization that will push every phase of the business. We should advertise and let others know what we are doing and get other breeders and fairs interested. I get letters from Kansas, "Tell us how to go about putting on a good saddle horse show," etc. This is one of the duties of our organization. If we had the permanent organization, putting a little money into it, had a secretary to push the saddle horse, we could have shows, stakes, etc. It is something that the saddle horse people will derive a benefit from and it should be brought about. We have never had a medium in this State whose interest it was to push forward the saddle horse. I am glad to say that our secretary has been bold enough to undertake to give us that needed publicity. He cannot do that alone. He has to have your help, your financial help and loyal support, and if you have a news item it will be to your benefit and to his benefit and to the benefit of all of us if you will take interest enough to furnish him with that information. In the past, if we heard anything about a Missouri saddle horse, it had to be extraordinary to get in the paper and then we would hear of it. That condition should not exist. We ought to be interested in anything that is to the interest to all of us. Every man who is interested in the saddle horse in this State should take an interest in The Missouri Stockman, recently established, and let us have some Missouri publicity. We ought not to be compelled to go outside of the State to get that which we have.

It is with regret that our friend, Mr. Wallace Estill, finds it necessary to go out of the saddle horse business. Not many men are able to start into the breeding industry on the basis and the solid, substantial, businesslike basis that Mr. Estill has started, but conditions and circumstances compels him to sell out his saddle horses. I am glad that Mr. Long of Kansas City has come into our ranks and is going into it on the substantial basis and is to be of great assistance to the industry in this State. Here at Columbia there is a great field for an extraordinary saddle stallion. There are half a dozen towns needing a good stallion, and I would like to see these things pushed forward. I believe they will be when we become fully organized, and I know it would be to the interests of this State.

I hope to see our ranks increase. I hope more people will take up the breeding of the saddle horse. I am glad to see so many present here this afternoon and to note the interest that has already been demonstrated. I hope next year will find more and more people having an interest in the most profitable horse that we are now producing, and I feel sure that if we all do our duty these things will come about.

MISSOURI THE SADDLE HORSE EMPIRE.

(John T. Hook, Paris, Mo.)

I find myself again with you and it is good to be here.

I am not here for the purpose of making a speech—for like a century plant, I bloom along that line only occasionally. I am here to talk to you as a neighbor would talk to a neighbor. Yes, to talk to you like a brother should talk to a brother. The beginning of the year 1914 finds the seat of the "Saddle Horse Empire" in our State, and our mutual friend, Rufus Jackson, sits on the throne. I hope every one of you takes his paper.

Without stopping to discuss the matter as to how it happened, it stands out as a cold-blooded proposition that the year 1914 finds the greatest saddle horses of the world citizens of the State of Missouri. Now with these conditions confronting us the question is, "What are we as members of the Missouri Saddle Horse Breeders' Association going to do about it?" How are we going to conduct ourselves? Heretofore we have run our big fairs and horse shows largely with the aid and consent of Kentucky. Do you want this to continue or do you want us to be released from our cable-tow and be bound to the State of Missouri—by the stronger tie of State pride? I don't blame the Kentuckians for trying to dominate the shows of this country and control the committees, but I do think it is time for us to

In the $2,500 saddle stake, Missouri State Fair, 1913.

declare our independence and get in the game ourselves and see who dominates at the Panama-Pacific Exposition in 1915—Kentucky or Missouri.

Professor Trowbridge is turning out a class of young men each year who have proved themselves the most capable judges in the land. Don't you think it time for us to recognize the merits of these young men? Now what we want is a clear working basis among the saddle horse men of our State. Stand up for our State as long as it is honorable to do so. Go into the show ring with the spirit of true sports—do our best, and if we meet with defeat accept it with a spirit that should be characteristic of true sports and loyal Missourians.

The man who because he cannot win, who goes around hobnobbing with and lending aid and comfort to some fellow out of the State, is a Tory and should be excommunicated without benefit of the clergy. What we want now is all to pull together and, with Rufus Jackson in the lead, make the year 1914 high tide in the saddle horse business in our State.

RECENT SADDLE HORSE HISTORY IN MISSOURI.

(E. A. Trowbridge in bulletin, "The Missouri Saddle Horse," issued by Missouri State Board of Agriculture October, 1913.)

The saddle horses of the present are but the saddle horses of the past, modified to some extent by the infusion of some new blood and the ideas and demands of present conditions. The American saddle horse as a breed exists upon the same foundation stock now as it did in years past. Some new blood has been introduced because it has served as a means of improving certain characters and features of the horses. More systematic efforts have been made in breeding horses because experience has proved that system in breeding would more certainly and quickly accomplish results.

In the days of the early saddle horse there was less of a demand for horses for city use, either as five-gaited horses or as individuals of the three-gaited variety. Today many of the highest priced saddle horses sold go to our cities as pleasure horses. They are sold either as three-gaited or five-gaited horses and their function is that of pleasure horses to be ridden

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NOTE.—This bulletin, "The Missouri Saddle Horse," is really a history, and almost a textbook. From practically every state in the Union have come requests for it—from some states calls for hundreds of copies. Quite a number of copies have also gone to foreign countries.

for one or two hours each day in the parks and along the bridle paths of our American cities.

While saddle horses of earlier years were used for this purpose and by this class of people, yet a large portion of them were used by residents of the country. Particularly was this true in the south. These people used them as both pleasure and business horses. Much time was spent by the planters and land operators in riding over estates to superintend the general activities of the place. The saddle horse also proved himself useful in numerous other capacities. In view of these different functions of the saddle horse, it was essential that he be a horse of considerable versatility. The horse of the earlier day was necessarily a horse possessed of gaits and manners which would make possible his use for a considerable length of time without great fatigue. The running-walk or other suitable slow gait was of prime value as well as the rack, canter and the flat-footed walk. For the horse of the present time which fills the same place these same gaits are of equal importance. For the horse which goes to the city as a pleasure horse a slight difference in the relative importance of gaits seems to be demanded. The trot has come to be considered one of the very foundation gaits of a saddle horse. That great saddle horse authority, Col. Charles L. Railey, has said, "No trot, no horse." While the trot is of the utmost importance, yet the pleasure-loving people who use saddle horses are close students of their horses, and their admiration and their money freely go to the horse that can perform at five distinct gaits in good form and with the proper manners.

The demand for quality and finish has also been of the utmost importance in saddle horses. The saddle horse inherited beauty from his thoroughbred ancestors, and constant attention has been given to his beauty and his quality since his existence began. Perhaps it is this beauty, intelligence and general air of refinement and culture which is common to all good saddle horses that serves as the deep-seated cause of unbounding enthusiasm and admiration for this type of animal. Certainly it is true that no other class of live stock breeders and users exhibit the enthusiasm which is prevalent among the supporters of our riding horses.

With the depression which followed the panic of 1893 came a depression in the horse business. Saddle horses perhaps suffered less than other horses, yet the lack of financial support was easily seen. Many great horses were produced during this time and some of the great horses which lived at the beginning of this period of depression managed to survive. Breeding operations were curtailed to some extent and the horse business in general did not flourish as it had in earlier days.

Following upon the heels of the financial depression came the invasion of America by the automobile. This unquestionably served as an opiate in the horse market and the lack of demand in turn led to a decreased production. As the automobile has come to be a part of our business life and our pleasure, conditions have become adjusted to each other and saddle horse breeders and dealers have found an excellent business growing up about them during the past four or five years.

The history of present-day Missouri horses and Missouri horsemen covers a part of the lives of many of the State's foremost men. Great progress has been made in breeding operations and market demands are better understood now than ever before.

THE FOUNDATION OF THE PRESENT SADDLE HORSE INDUSTRY OF MISSOURI.

(Rufus Jackson in bulletin, "The Missouri Saddle Horse," issued by Missouri State Board of Agriculture October, 1913.)

The saddle horse industry of Missouri is an inheritance from an ancestry that in the early days came from Kentucky, Tennessee and Virginia. Saddle horses were then a necessity, as they furnished the only means of travel through the densely wooded valleys and the high rolling prairies of the early Missouri. Missouri owes much to the saddle horse. Not alone for the great reputation his production has made for the State in the present age, but the State's early settlement was made possible by the saddle horse as a means of locomotion.

This article is to deal with the history of the early-day Missouri saddle horse. It will not be complete. The lack of records make it an impossibility to compile such information in a manner that could be called complete. The matter set forth herein is largely gleaned from personal information. It is submitted for whatever good it might do. Perhaps it will attract sufficient interest so that those who are personally informed may be interested in furnishing data that will make a future article of great historical value.

The early-day saddle horses of Missouri were brought here from Kentucky, Virginia and Tennessee and were largely of thoroughbred ancestry. In the following years came representatives of the families known as the Hals, Drennons, Copperbottoms, Whips, Cockspurs and the Bald Hornets. The Vermont Morgans were also represented here in the early days and should be considered as a contributing factor in the improvement of the breed. The Eagles, often referred to, were sons of Grey Eagle (Th.); the Golddusts were sons of the trotting-bred Messenger Golddust, and Jack Sportsman, Jr., was a thoroughbred of royal lineage. Revenue is another horse often referred to in the pedigrees of the good Missouri-bred saddle horses, but like the other stallions of his day, but little is known of him. Perhaps this article will be read by some who are informed concerning these great stallions of the yesterday and who may be sufficiently interested to correspond with the writer in the matter. It will prove of great benefit to the industry to learn more from authoritative sources of the good horses of the early days. Such information will prove of interest and will be appreciated by the present-day breeders of saddle horses.

Occasionally we find, in a study of the pedigrees of the registered saddle horses of today, a reference to the good horses of the past that is given in such a manner that it conveys some information as to their breeding. We shall call attention to the breeding of two of the good horses of the present age for the reason that it is interesting to note the value of the information so obtained. Both are Missouri-bred and are well-known to the saddle horse breeders of the State.

Jack McDonald 3217, owned by Buckman Brothers, near Monroe City, is by Rex McDonald 833, and his dam, Margaret 4749, by John M. Hoxey; second dam, Mary, by Patrick's Bald Hornet, a Tom Hal horse brought to Monroe county by Biggs & Fox; third dam, Maid, by Bodene (Th.), a horse also brought to Monroe county from Kentucky, and by War Dance, dam, Reel by Imported Glencoe; fourth dam, Pet, by McReynolds' Coppertom, by Griffeycopper, by John S. Copper (known by some as Tom Hal); fifth dam, Hunter, by Grayfoot (Th.), brought to Missouri by Dr. Bower of Monroe county; sixth dam, Queen, by a son of Sir Archy (Th.), that was brought to Missouri from Virginia and made one season near Florida, Monroe county; seventh dam, a mare by a son of Imported Diomede, brought to Missouri from Kentucky in 1836 by J. S. Buckman, the father of John R. and R. P. Buckman, and the grandfather of Will and Charles, favorably known as the Buckman Brothers. During the Civil war the farm of John R. and R. P. Buckman, who were strong Southern sympathizers, was raided and every serviceable horse on the farm was confiscated. The mare, Hunter, on account of disabilities, was deemed of no value as a cavalry mount and was left. From the produce of this mare the present great horses on the Buckman farm descended.

The writer has been made familiar with the pedigree of the good mare, Miss Cliff 5524, owned by Wallace Estill & Son of Estill, Howard county. This mare is also by Rex McDonald 833, and on her maternal side is a descendant of a mare called Blue Bird, ridden to Missouri from Kentucky as a two-year-old by J. H. Estill with bedclothes and a surcingle as a saddle. This was in the early fifties. This mare was by the thoroughbred, Woodpecker. In 1859 Mr. J. H. Estill sold all his personal property that he might go south to save his negroes, he, like many of the Missouri farmers of that day, being an extensive slave owner. Previous to this sale Blue Bird had been bred to a horse known as Green Mountain Morgan, owned near Paris, and produced a chestnut filly called Emma that Mr. Wallace Estill's father, J. R. Estill, paid $200 for at the sale as a two-year-old. When the Civil war came on every precaution was taken to save this mare from the depredations of the bushwhackers. She had been bred to a horse called Cockspur, owned by Tom Moss of Fayette, and brought here from Kentucky by Vol Paine. Cockspur was said to be out of the dam of Edwin Forrest 1901, which horse, by the way, passed the better part of his life near Keokuk, Iowa, and was of material assistance in bringing the saddle horses of Northeast Missouri up to their present high standing. From Cockspur Emma produced a black mare called Fancy and was rebred to Cockspur, this time producing a bay colt called Prince. While Emma was yet suckling Prince, Mrs. J. R. Estill was riding her one day to the home of a sick neighbor. A bunch of bushwhackers met Mrs. Estill, took possession of the mare, and after turning the colt into a wheat field one of the number rode the mare off and she was never again seen by her owners. Her foals, Fancy and the horse colt, were left to the Estills, and the children of that family used her in learning to ride. She is said to have been a wonderful fine saddle mare and her manners were near perfect. She was bred several times to Ashland Denmark and produced, among other foals, the black mare, Grace, foaled May 16, 1872, a date well remembered by Mr. Wallace Estill, for it was his wedding day. Bred to Tom Telegraph, Fancy produced Topsie. This mare was the dam of Topsie Estill, by Mambrino Eric, the dam of Miss Cliff.

The development of the industry as established today began with the first interest in competitive exhibitions in which beauty, grace of movement and stamina were the qualifications considered. Our early citizens tell of the great saddle horse shows of the antebellum days. From this source of information we learn that the Missouri saddle horse of that day was of splendid type and finish. However, during the Civil war every horse available for military use was drafted into service. At the conclusion of the civil strife but few remained and the horse industry along with other agricultural and industrial enterprises began life anew.

Perhaps we may say it was in the early seventies that the breeding and exhibiting of saddle horses had become so established as to be of consequence. We are told by our older friends of great shows in those days. The records, however, do not antedate the early eighties, the beginning of the saddle horse era in Missouri. At this time a keen interest had developed, and in the rivalry incidental to owning and showing the best many prominent stockmen through the central part of the State became intensely interested. Kentucky was drawn upon for the best, and the present-day records will disclose that the greatest sons of the greatest sons of Gaines' Denmark 61, the best Denmark of the Denmark family, were bought by Missourians and brought to this State. It is here that the yesterday of the Missouri saddle horse, as we positively know him, begins. We shall not attempt to give the order in which these great horses were brought to Missouri. Authoritative information in the matter of dates is extremely hard to obtain, but a brief description of the great horses that, through their progeny, have made the saddle horse industry of Missouri, is noted in this bulletin.

Missouri Draft Horse Breeders' Association.

OFFICERS.

President—J. F. Roelofson, Maryville.
Vice-President—Wilmer McIlroy, Louisiana.
Secretary-Treasurer—E. A. Trowbridge, Columbia.

ADDRESS OF THE PRESIDENT.

(J. F. Roelofson, Maryville, Mo.)

J. F. Roelofson.

Gentlemen, you no doubt all understand the purpose of this meeting, it being an annual event in the history of the Missouri Draft Horse Breeders' Association. I take it, too, that most of you understand what the Missouri Draft Horse Breeders' Association is.

This association was organized four years ago for the general benefit of the draft horse industry, and we have from time to time met together and transacted such business as seemed advisable. As an association we have grown each year in membership, and we can very truthfully say that each year more interest has been manifested in the heavy draft horse and that Missouri farmers and breeders are now producing more and better draft horses than ever before.

We, of course, would not claim that this has all been brought about by and through the efforts of the officers of this association. The modern Missouri farmer has seen that along with other products he should raise some good draft horses.

Inventive genius has tried for many years to displace the horse, but in spite of this tendency the draft horse industry is in a most prosperous condition. More draft horses are being

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NOTE.—Attention is called to frontispiece showing draft horse demonstration at Columbia during Farmers' Week, 1914.

produced than ever before, and still the demand continues to increase. The draft horse breeders everywhere are not only breeding more, but better, horses than in the past, realizing that the demand is for the better classes and that the real drafter with quality always commands the high dollar. The fascination that the business has for the real horseman prompts him to produce the best that his ability and judgment can develop.

We go to the State Fair or other great fairs and horse shows, and we notice the great interest manifested. I dare say that at most of these big fairs the big draft horse is one of the greatest features of such shows and is perhaps the subject of more comment than is any other part of the exhibit. Now there are reasons for this. Of course they will say, "Isn't he large" or "Isn't he handsome" and all that sort of thing, but the fact is the masses are understanding and beginning to realize that he is almost king. At least he is to some extent "the power behind the throne." Eliminate him and where would we be today? Think of it! There is no getting away from the fact that in the main the horse furnishes the power to move the vast amount of machinery to operate the farms of this and other countries, that raise the products to feed the civilized world. When we breed these horses then we are ourselves contributing to this mighty power. It is claimed by some (and it is probably true) that for long hauls the big motor trucks can be operated with economy, but I might say that the same has been true of the steam railways for years. We have had no occasion to compete with this mode of transfer. Rather is it a fact that the more of these long hauls that are made the more business there is for the actual "horse power" alive and real at either end of the line.

In the former meetings of this association I have urged Missouri farmers to raise more and better horses. Some of the states around us are excelling us in the number of draft horses produced. We would not like to admit that they are producing any better. We cannot give a very good reason why they should produce more, for Missouri has every facility necessary for the production of the very best. It seems to me, fellow farmers and breeders of Missouri, that we should be securing more of the good ones in our own State. It is a noticeable fact that at many of the sales of pure-bred draft horses too many of the good ones go farther away from us, in various directions, not only to the far west and northwest, but not infrequently to the old states of New York, Pennsylvania, and others where they have nothing like the conditions that we have for raising good draft horses for profit. But I do not mean to criticise, for Missouri is gaining each year in the production of draft horses, both in numbers and quality. In the last four years that we have been organized I have taken quite an interest in the progress of draft horse breeding in this State, and I find new men entering the field each year, many of them starting with only a few, but most of them gradually growing into a business which is bound to be appreciated by the community. It is a well-known fact that a high-class stallion in a community leaves his impress for future good in the improvement of the horses of such locality. Such improvement being so clearly shown by one horse, a correspondingly greater improvement might reasonably be expected by the establishment of pure-bred herds here and there, and I wish that these might be distributed with a regularity all over the State.

To the Missouri farmer present who owns no pure breds I would say that you certainly would do well to secure at least a pair of pure-bred mares, breed them to the best stallion available and get in the procession, for the draft horse industry is not going to be behind all others by any means.

The time will come, and ere long perhaps, when the modern Missouri agriculturists will all be using and raising pure-bred draft horses and turning their surplus each year into a very handsome profit by the production of the right kind. Then you will be turning deeper and wider furrows, hauling heavier loads and "cut a wider swath," whether hay or whatever it may be.

DEVELOPING DRAFT FOALS.

(E. H. Hughes, College of Agriculture, Columbia, Mo.)

Never in the history of the horse breeding industry has there been a stronger demand for the heavy draft horse, nor has he ever commanded a correspondingly higher price than at present. To produce drafters of this class we must develop the foal.

The progress of the draft horse breeding industry, in part, depends on this development, for during the first twelve months the colt makes as much growth as it does in the following three years. The increased demand for the heavy drafter comes from several sources. Increased population without the corresponding increase in land makes intensive farming imperative and we become more thorough in our cultivation methods. The high price of farm labor is another item, and to overcome this factor we employ less men and more horse power. It is an economical fact that we must develop the foal. During the first year the colt makes a pound of growth with less feed than at any subsequent time. On the other hand, the colt cannot handle a large bulk of feed in its small body. Therefore the folly of withholding grain from the foal either before or after weaning is apparent. We not only get economical growth, but by early development we get early maturity—larger and better horses.

Imported Percheron stallion, Honorable (54635) 41371, at the head of the stud of Percheron mares owned by the department of animal husbandry, College of Agriculture, University of Missouri.

If we are to produce horses of size, quality and conformation we cannot hope to succeed unless we use great care in breeding, selection, feeding and general practices. From the sixth week after the mare is in foal there is an ever increasing demand for bone-forming material, and is especially urgent during the first three or even five months after birth.

It is essential that the breeder should so regulate the food of his brood mare that an abundant supply of mineral matter will be available, not only during the gestation period and during the time she is suckling the foal, but he should also be in a position to so feed his colts during the first year that they may be able to form large, ivory-like bones, strong ligaments and tendons that have the capacity of withstanding sudden jars and strains. The stunted frame of a yearling will never expand properly by any system of later feeding.

Few foals get too much feed. He should be encouraged to eat early, and when he begins to nibble at the mare's feed then put up a low feed box just out of reach of the mare and feed him regularly. A mixture of crushed oats and bran is a good feed during the summer and early fall.

The foal must be encouraged to eat, exercise, rest and grow. If the mare is turned to pasture, exercise and rest are provided naturally. Though grass is provided, the foal should get grain once or twice a day either in a creep in the lot or be fed in the barn. Though our pastures are good during part of the season, we cannot compete with Europe in raising horses on pasture alone, for there the humid atmosphere keeps the grass fresh and green through the growing season. If the mare must work, keep the foal in a ventilated, well-lighted stall, a well-fenced lot or paddock. The colt should not follow the mare at work. While the foal is suckling the mare her feed must be intelligently chosen. She should not be given too rich feed, turned too suddenly to pasture, or brought in too hot and tired to her hungry colt. If care is not taken trouble will surely follow. A good, strong digestion is an absolute essential in a foal. Therefore, an evenly regulated supply of milk, uniform in quality and quantity, is needed. The way to secure this is to regulate the feed of the mare, avoiding sudden changes of any kind and shielding her from too much exhaustive work.

Probably the best feed for the mare is oats, bran, clover or alfalfa hay or pasture, with possibly a pound of oil meal daily. The mare and her foal should have access to water and salt whenever possible.

When five to five and one-half months old the colt should be weaned. At this time the foal should be eating grass or hay and a mixture of oats and bran, or a mixture of corn, oats and bran. The corn and oats should be ground, at the present high price of feed.

Draft foals that are doing well gain from three to four pounds per day up to weaning time. Colts sired by 2,000-

pound horses and from 1,700-pond mares should average 750 to 800 pounds when weaned. Averages taken from thirty-five colts in different sections and showing very little variation would make these figures fairly reliable:

One month, 345 pounds; two months, 465 pounds; three months, 570 pounds; four months, 675 pounds; five months, 759 pounds; six months, 828 pounds; twelve months, 1,170 pounds.

At weaning time there should be very little trouble if the foal has been fed and handled properly up to this time. The foal and mare should be separated, the mare being milked by hand until she is dry, to prevent caking of the udder. In the meantime, the foal must have careful attention. It should be turned to pasture or paddock each day, except during inclement weather. At night it should be placed in a ventilated, well-lighted, well-bedded box stall, if possible. Two foals will do well together in one box stall.

The following is a part of some experimental work done at the Wisconsin Experiment Station under the direction of Prof. J. G. Fuller. The work covers two years' time. Eleven pure-bred foals were used in the test. The foals without exception were doing well when the tests were started, having had good care and feed prior to the time they were put on the experiment. The foals were fed at 6:00 a. m., 12:00 m. and 5:00 p. m., regularity of feeding being considered very important.

The ration was, 60 pounds ground oats, 15 pounds ground corn, 10 pounds bran, 15 pounds chopped alfalfa.

Average daily ration fed	16.2	pounds
Average feed per meal	5.4	"
Average dry feed per pound of gain	7.91	"
Average cost per pound of gain	$.096	
Average daily gain per foal	2.1	"
Average cost of foals (25½ weeks)	$32.95	
Average cost of foals (40 weeks)	58.84	
Average cost stallion service	20.00	
Total cost one year	74.84	
Average value of these foals	215.91	
Profit	141.07	

This ration was fed dry and included no roughage other than the fifteen pounds of chopped alfalfa which was mixed with the concentrates.

Taking the average foal from 2,000-pound sires and 1,700-pound dams at 828 pounds, and taking the daily gain of 2.1 pounds for one hundred and eighty days or six months, makes a total gain of 378 pounds the last six months or a total of 1,206 pounds at twelve months of age.

Conclusions:

First—Draft foals may be made to weigh 1,200 pounds at one year of age.

Second—It will pay to force pure-bred or high-grade draft foals on such a ration.

Third—The ration is recommended highly as being practical for the development of pure-bred and good, well-bred grade foals.

Having produced 1,200-pound foals at twelve months of age we can reasonably expect large, early maturing horses. No one will question the advisability of forcing the good, pure-bred colt, but what are we to do with the high grade? With ordinary care he will mature at from four and one-half to five years of age, weighing 1,500 pounds and worth $175; with proper care, feed and supervision he will mature earlier, weighing 1,800 pounds and worth $325. This is ample proof that it pays to develop the good foal to its fullest extent.

DRAFT HORSES FOR MISSOURI FARMS.

(Wilmer McIlroy, Louisiana, Mo.)

Wilmer McIlroy.

I presume nearly every person in the audience is raising or contemplates raising draft horses. I sincerely hope you are very enthusiastic about it, for it is the best, most progressive farmers that assemble here each year, and each one, no doubt, has a great influence in his home community, and you can give no better advice than to raise good draft horses.

A paper wrote asking me to write an article on "Pure-bred Draft Horses" for the every-day farmer, saying that a few men thought nobody but the wealthy could dare try it. That belief is far from correct.

Draft horses in Missouri have been neglected entirely too much, and it is my prediction that we will be still further behind in draft horse breeding unless the State Fair or some other organization does something to encourage the few men who are now striving for better draft horses.

You know Missouri has long been noted for her beautiful saddle horses and good mules, and that is all right, but the time is coming when we must give more attention to the heavier breeds or lose our prestige as a mule-producing State.

Good property on any farm.

While we have been fussing with Kentucky as to who had the best saddle horses, and have been raising mules with only Kentucky and Tennessee as competitors, other states have been growing rich raising big dependable drafters. But things are changing gradually, and Iowa, Illinois and Kansas realize what kind of mules they can produce with their splendid draft mares, and they are doing it.

Ira G. Sharp, Sharpsburg, Ill., who showed the grand champion mule this year at many state fairs, including our own, told me that that mule was out of a 1,900-pound Percheron mare. He didn't say, but I am sure the sire was a big Missouri jack.

I am having double the inquiries for jacks from Illinois men that I had three years ago. They can buy a jack in Missouri that is standing for $10 and get $15 for his services. Why? Because the farmers are well stocked with grand, big mares; therefore are able to pay, and then the mule from that class of mares is worth thirty-five dollars more. An Illinoisan will tell you also that two jacks of equal value, one a Missourian and the other an Illinoisan, that the former will get more business by far.

The draft horse stock of any country is the foundation of everything. Had you ever thought what breed of horses we could get along best with if we were compelled to discard all the rest? A neighbor told me last year he had. eighteen head of horses, and should one die he would have to borrow a team to drag it off with. Is that a dependable, profitable kind to care for and feed high-priced feed to?

The lighter breeds are all right, and they have their places to fill, and everybody has to take his hat off to a finished saddle horse, but how many farmers are capable of finishing one? The man who gets the big prices we hear about for the light horse isn't the farmer very often, but the dealer who grooms and educates him. I noticed an account of a dispersal sale a few weeks ago of some magnificently bred trotters, and the average was under $100.

One of my neighbors had a sale two years ago, and a weanling, a yearling and a two-year-old harness filly brought an average of $71, while a two-year-old draft filly, not any better for her kind, brought $165.

W. J. Cunningham, Hartford, Ill., gave $300 for a three-year-old Percheron filly, and at his sale last year she at ten years old with a month-old filly colt brought $600, and he had already sold $2,375 worth of produce from her. I have a mare due to foal in two weeks, bred to the grand champion Percheron stallion, Carnot, and I have refused an offer of $500 for her colt at weaning time. It is such things as those that caused us to begin raising Percherons.

Statistics show that the live stock farmers are making more clear money and keeping their land up much better than the grain farmers. If the population increases 21 per cent during the next ten years as it did the past ten we must raise more from our acres. Better farming and good draft horses go hand in hand, for to raise more grain and hay and do it economically we must plow deeper, cultivate more thoroughly, farm more intensively and concentrate our labors by having one man do the work of two by using modern implements. To do these things weight in the collar is very essential.

If we are raising horses successfully then we have a surplus to sell, so the market should govern our breeding operations largely. What are the market demands? They are for horses standing around seventeen hands, with weight, quality and conformation. How do we produce that kind? By having good draft mares, breeding to splendid stallions weighing a ton or over and by giving them that often-neglected "corncrib" cross.

Too many men think that because the colt has big stock in it that it will go out to the stalk field with the rest of the horses and mature into a fine, large horse. A horse's future depends largely on the care it gets the first two years, especially the first year. Feed generously.

Men on small farms should keep nothing but good, big mares to use; they will do all the work and raise a colt worth from $100 to $150.

The Agricultural College, especially the animal husbandry department, is the best friend the farmer ever had. Boys who come here to school get an incentive that couldn't be given so easily any other way. Every boy loves his stock judging class and goes home determined to raise better stock. Then if the father doesn't encourage him by getting better horses a large part of the good he got out of school is gone. Humor the boy by letting him have one good team well harnessed and you will almost have the problem of keeping the boys on the farm solved.

Then the hired man is to be considered. He is much better satisfied if you give him a splendid team; he will take better care of it and be in better humor to do other work. No good hired man likes the "Boss" unless he is somewhat progressive.

I am trying very hard to get my neighbors to get better mares, either by buying or grading up with what they already have, and my labors in that line are not lost as many are now searching diligently for good mares. It is true we have been careless about this matter too long for our own good, but will probably be heard from in the future.

I had a pair of our good mares in town one day when a horse buyer from St. Louis who was buying horses said: "I guess that pair isn't for sale, but the farmers must raise that kind if they expect us to continue coming here after horses."

Now there are several ways the draft horse business can be helped. One is the community colt show. I saw a lady last fall who had been at Bloomington, Ill., during their colt show, and she thought there was more enthusiasm and more good colts than she had ever seen before.

Another thing that is doing untold good is the "State Fair Futurity." That encourages the breeder to take extra care of his colts until they are nearly two years old, when the biggest part of the growing is done.

And if our State Fair would give half as much for draft horse sweepstakes as they do for saddle horse sweepstakes they would do this State more real good than could possibly be done in any other branch of the animal industry.

Therefore, I think it the duty of this "Draft Horse Breeders' Association" to petition the State Fair management to be just as liberal as possible in giving to their heavy horse departments.

We have the soil, the climate, the grass, the everything, so let us resolve to grow more and better drafters in Missouri during 1914.

OPPORTUNITIES FOR THE DRAFT HORSE IN THE OZARKS.

(Lewis B. Tietze, Oakland, Mo.)

Joseph E. Wing said some time ago that the products of the State of Missouri are so many and varied that if we were to build a high wall around us and shut everything out we would not miss anything we have been used to except bananas. Everything we need is produced within our borders, from maple sugar to sauerkraut. Likewise, the Ozark hills country of Southern Missouri will produce everything that goes to build great draft horses, unless it is commercial stock foods, and I am strongly of the opinion that that is something we can get along without. I invested 25 cents of good and lawful money in a package of stock food or "Animal Regulator" once upon a time. If you get it in 25-pound pails it is called "Stock Food;" when you buy it in little packages it is called "Animal Regulator." I have fed 25 cents' worth of "Animal Regulator" to my horses since I have been in the business, and ever since I have felt that I never got my money's worth out of that transaction.

Mild, short winters, suitable soils for the production of grain, forage and grasses of all kinds and an abundant supply of living water all combine to make the Ozark hills an ideal region for the raising of draft horses as well as other live stock. The heat of summer is not oppressive, and is always tempered by cool nights which afford great relief to both man and beast.

Our winters are mild; the temperature does not often fall below zero, and when it does it is immediately followed by warmer weather. The grazing season begins in March; sometimes early in April, and continues until December. Pastures of wheat and rye are usually green throughout the winter. Snow seldom lies on the ground more than seven consecutive days.

To illustrate the open winters I will describe the care my horses receive. They are never stalled at night unless the ground is icy or covered with snow so they can not lie down outside. One winter they were stalled only twelve nights throughout the winter. My stable doors stand open day and night, summer and winter, the year around. The horses go in and out between the pasture and the barn when they please, and if you have ever experimented any along this line you will find they generally prefer to be out, as it is not natural for horses to be housed up. It is wet with cold that hurts horses; cold alone does not.

Now don't suppose for a moment that I make my horses "rough it" by starving or neglecting them, for I do nothing of that sort. I have just as healthy a lot of horses as anybody. My horses are never sick; I never lost but one horse and he was killed by lightning. I have never had a case of distemper. I never had a colt with lice. My brood mares raise colts regularly every year without fail, and I have never had a colt lose flesh during the weaning process, and I have been breeding horses for ten years—pure-bred drafters for six years. My stallions share the same outdoor life as the mares, and it is generally conceded that I have the surest breeding sire in the country. I am not saying that distemper and lice are unknown in the Ozarks, for unfortunately that is not the case. I am trying to show you what can be done down there with the climate and brains working together. A motto which I work by is this, "Eternal vigilance is the price of good horses."

The fruit industry which has brought fame to the Ozarks for so many years is, owing to frosts, drouths and other things, being superseded by stock raising and general farming. Dairying is fast becoming the most important and successful line of farming. It is a known fact that those provisions of nature which make dairying profitable will also grow bone and muscle in horses. There are eleven different types of soil in Laclede county. There are farms that are as rich as any in the State of Illinois and there is land so thin and poor and stony that you actually couldn't raise your umbrella on it. We have fields that have produced a crop of corn every season for eighty consecutive years with no appreciable decrease in soil fertility. All the standard farm crops are produced, although the oat crop is not generally sufficient to supply the local demand. All our soils except the most stony hillsides will grow blue grass abundantly. After years of experimenting we have learned how to grow alfalfa in the Ozark hills, and there are hundreds of acres of it there now; some in my own county. Not all our soils are adapted for it and the cultivated methods differ some from those elsewhere, but it will grow all right when you know how.

Everywhere I go people take great pleasure in telling me that the people in the Ozarks are far behind everybody else in agriculture. This has been true to a degree, but it will not be so very long. We have not had the advantages or opportunities enjoyed by others. It is about 75 miles across the country from where I live to our State Fair. It is more than 200 miles by the shortest railroad route, to say nothing of changes, waits and poor connections. Is it any wonder that we do not all turn out to the State Fair every year? The old-line native Missourians are learning or disappearing.

I meet people from all parts of the world who depend upon signs for their success in breeding operations. As far as the horse breeding industry is concerned, the education of a community depends upon the stallioners. If they are unprogressive or conservative little can be done, and that has been the trouble in the Ozark country. Stallion men would not hesitate long to pay $1,000 for a jack, but would balk at half that sum for any kind of an improved stallion. Importers have tried to push their business into the Ozarks. They met with little or no encouragement from the stallion men, and so they moved their basis of operation to other and more profitable fields. George R. Crouch told me they sold 18 stallions in one county in Missouri. I asked him how many he had sold into the Ozark region. He replied that he did not have the boundaries of the Ozarks definitely fixed in mind, but to the best of his knowledge he had never sold any except to a horse merchant in Springfield.

At this present time, however, a great change is taking place throughout that vast region. We are on the threshold of an era of transformation of development and of readjustment.

From the densely populated rural districts in the states to the north, northwest and northeast of us is coming in a steady migration of intelligent, progressive and up-to-date farmers, realizing that this is their last and only opportunity to secure homes at a price within their means. When they once get possession of a farm it will never be for sale again, for they have come to stay. We extend to them the glad hand of welcome, for they are the best class of farmers and citizens you ever saw. Each newcomer brings with him one or two good pairs of high grade draft mares, probably in foal, and with them comes an ever-increasing demand for better sires. The younger generation of Missouri farmers, too, are not content to live and farm as their fathers used to. In nearly every farm home in the Ozarks nowadays at least one farm paper makes its weekly visit. It is, indeed, refreshing to see frequent articles in our stock journals setting forth the merits of the draft horse and his value to the southwestern farmer. Publishers should whenever possible illustrate these articles with good half tones, for pictures will do much toward helping the reader to form an idea of what a good horse should look like, and few have the privilege of seeing the real article at the ringside.

When I introduced the first pure-bred, heavy, draft stallion into Laclede county I half expected that I would have to raise a pair of geldings and ship them to market before my neighbors would see that there is money in draft horses. At first I met with opposition strong enough to have discouraged anyone not supported by a faith born of the knowledge that his undertaking could and, therefore, must succeed. The leaders in the outcry were, of course, the other stallion owners who declared the horses were too big and unwieldy, couldn't stand the climate, couldn't climb the hills, would stick fast in the mud, would tear a turning plow "all to the devil," and all that sort of talk which was heard in your neighborhood years ago. Today my breeding business is still only in its beginning and yet I can already tell you that "I came, I saw, I conquered." The people down there are quick to grasp new ideas. They see me successful with my horses and they follow my example. They do not always understand the science of it all, but they do as I do and get the same results.

Gentlemen, the time is surely very near when the draft horse will come into his own in the Ozarks. I am not a prophet, neither am I one of the sons of the prophets, but I honestly believe that this coming season Laclede county could support a good draft sire for every one of her twelve townships. Good, big, grade stallion colts, sired by my old horse, are strongly in demand to use for breeding purposes, and I do not discourage their use because they are so much better than the stuff that was there before. There are about 3,300 mares in my country suitable for breeding. Good draft sires, owned by intelligent men who can advertise wisely, would command most of these in a few years. The raising of mules is not the paying proposition it once was. I can remember the time when any beast with long ears and a bray was considered a good mule jack. But times have changed, people's inclinations have changed and the mule market has changed.

While I am not acquainted with any great part of the Ozarks, I think conditions in my own county do not differ greatly from those in most of Southwest Missouri. A year ago last summer I was called on business to a near-by county whose agricultural wealth is nearly twice that of Laclede. Having an hour or so of leisure, I did as I do everywhere I go—I looked up the horse breeders in that town; I made the acquaintance of one of the leading bankers who owns some saddlers. In the course of our conversation he told me he did not think there was a pure-bred draft stallion in the whole county. He had been contemplating the purchase of one for some time as he was sure it would be a profitable investment, but he had not done so as yet.

I have endeavored to show you that the time is at hand when the production of draft horses may become an important industry in the Ozarks if pioneered by men with a "go-ahead-itive" spirit, who are willing to do missionary work and patiently await results. But that is not all; I don't believe there ever will be better opportunities for community breeding than is there offered. Here are people who have arrived at the point where they will insist upon using better sires. Considerable draft blood is already prominent in the she-stock, yet the blood of no particular breed predominates to any appreciable extent. Neither are the farmers prejudiced in favor of or against any particular breed. Let the man in each community who has the inclination and the means buy a pure-bred draft stallion and, perhaps, a pair of fillies, advertise wisely and wait patiently for results, and if he has no reverses I will bet you a coonskin his success is assured. Let him choose the breed that his constituents like best, if there is one, otherwise his own favorite breed. He should enlist the help of the banker, newspaper and business man to help advocate better stock as well as to discourage the bringing in of other breeds. I will tell you the truth, friends, I have no favorite breeds. I thought I had when I started breeding, but the more I associate with and compare the different breeds of draft horses the more I am convinced that one breed is as good as another and where one will succeed the other will also, but I realize the necessity of sticking to the breed—not only of the individual breeder, but of whole communities. I have been in breeding districts where you can drive along the public road and see in one pasture a group of horses of Belgian breeding; in the very next, Percheron blood predominating; in still another field, Clydesdales, and so on. Each of those farmers has followed his fancy. They have been breeding in all directions and got mostly nowhere. I have more than once been seized by a yearning to own one of those thick, sturdy roans or one of the white-faced beauties, but common sense tells me that so far as local interests are concerned that should never be.

It is very seldom than any one raises objections to the breed that I handle. When some one does, I explain to him to the best of my ability the wisdom of community breeding. In nearly every case he goes away pledging his support to my efforts, and he is especially likely to do this when he learns that I am about as much of an admirer of his favorite breed as he is and it is only a matter of policy or accident that I am interested in another.

SOME FACTS REGARDING THE DRAFT HORSE.

(W. S. Corsa, Whitehall, Ill.)

King Richard offered his kingdom for a horse—Professor Trowbridge only offers 20 minutes. We bow to Professor Trowbridge and will attempt to touch a few of the high spots in the subject assigned.

The draft horse is the logical horse for corn belt conditions. The proper tilling of the soil, with the scarcity of farm labor, requires power for the large machinery devised to perform the most work at the least expense for manual labor per acre of ground or bushel of grain. This evolution of agricultural machinery to the large model has been rapid and widespreading until in the west powerful tractors are in common use. There the climate and soil and extent of ground to be covered point to the use of such massive machinery, but in the corn belt, upon the majority of farms and in the general run of seasons, the draft horse will prove the most economical source of power in producing our crops for some time to come.

In the corn belt we do not breed draft horses to cultivate fruit nor to raise cotton, but wheat, corn, oats, clover, alfalfa—the very best feed to develop the draft horse to his best estate. It is a weakness of human nature to feed more liberally when you raise the feed than when it is brought in over the railroad. Draft horses for their proper development require generous feeding. So nowhere else in all the country are the natural conditions for developing the draft horse so favorable as in the corn belt.

The custom and training of the corn belt farmer is to handle stock in bunches. The kindly disposition of the drafter, his quiet, friendly manner, his peaceable ways with those of his kind, as well as other kind and mankind, enables him to fit in most acceptably with the prevailing methods and equipment on a corn belt stock farm. As with cattle, you can double the average bunch of draft horses, and practically the only expense you have doubled is the expense of feed. Here is an economic feature which has considerable bearing on the successful contraction or expansion of such an enterprise. At home we have a two-cent parrot in a $20 cage, but a bunch of somewhat valuable draft mares went all winter and never saw the inside of a barn. An hour's chill would do up the parrot, but whoever heard of a draft horse that had plenty to eat freezing to death in the corn belt—if, on a day like this, one can imagine anything ever freezing? A woodland blue grass pasture and grain twice a day, and today we have twenty-one colts saved out of twenty-two foaled, a result due in no small measure to abundant out-of-door life and plenty of feed.

We overlook our hand when we fail to remember that the horse is an out-of-doors animal, that the corn belt furnishes a well-nigh perennial and salubrious out-of-doors for the drafter at a minimum expense per head for equipment. There has been and is much argument as to whether there exists such an animal as a "dual purpose" animal. Permit me to lead forward a corn belt draft mare and mark her "Exhibit A." She produces the crop which sells for cash, and a colt which from weaning time on may be transmuted into more coin than the average individual offspring of any farm animal at the same age. Jane produced $1,400 worth of colts and Daisy $900 worth, and also performed their full share of labor on the crops.

CARNOT 66666 (66666)

Champion Percheron stallion, International Live Stock Show, 1911. Among the best sires of the breed.

Later, branded by wire and marked with age, they sold for approximately their original cost. The depreciation in the power plant of the corn belt farmer is at a minimum when the units are drafters; and when these units are draft mares it is the only power plant I know of that renews itself while producing profitable labor.

In 1910 the Illinois Stallion Registration Board issued up to October 1st 9,370 licenses. Of this number 3,397 were for pure-bred draft stallions—all breeds. An average of about 33 pure-bred draft stallions to each county of this, the greatest draft horse State in the Union. A mighty little leaven to leaven so large a lump.

Reports from neighboring states tell a similar story. In spite of the automobile and auto truck the growth of population has brought about a greater demand for horses for farm and city work.

The corn belt farmer wants to awaken to the use of only pure-bred draft stallions and to the necessity of increasing the number of such stallions in every community, to the exclusion of the mongrel and the scrub.

"Grading up," as Doctor Alexander so well states, "means using a pure-bred stallion for the first cross and continuously crossing the resultant female progeny with pure-bred stallions of the breed first used until all impure blood has been practically bred out." And that "as soon as possible in every community unsound, unsuitable, undersized breeding animals should be discarded—sound, high-class mares substituted and only pure-bred stallions patronized."

But the call of the times is to be the pure bred as never before. The expense of maintenance is the same; the labor of the pure bred is the equal or superior of the grade. Lineage is no license to loaf in either man or beast, and the profit and pleasure of breeding pure breds is incomparably greater. The pure-bred weanling brings as many dollars as a well-matured high grade. The pure-bred drafter on the corn belt farm spells better farming, better fencing, practical elimination of the barb wire and the barbarian scrub, and the maintenance of our heritage unimpaired as the seed bed of the draft horse industry.

Other lands are casting eyes toward the United States for breeding stock of the beef breeds of cattle. Breeders of dairy cattle are at this very time anticipating the production in America of the choicest specimens of their favorite breeds. Already we have distanced foreign lands in the production of ideal types of swine. Is it possible that having drawn to this country for years the highest type and best individuals of draft horses that the day will not come when the draft horse, in the splendor of this massive form, graceful carriage and symmetrical outline, will not be sought for in our own country by our own breeders and the breeders of foreign countries. It would be an indictment of the intelligence and perseverance of our people to deny it, and when that day arrives the drafter of our ideals and our dreams will be found on the land of the corn belt farmer.

In this presence and in this connection it may not be out of place to say that we have been fortunate enough to have done some things or to have seen some things done in breeding draft horses, and while every man's work is for real success much depends upon his love and interest for it, and is not based primarily on the financial side. At the same time, if it is not profitable financially you cannot maintain your own self-respect, much less that of your neighbors, your friends and those around you. One could not afford to do these things if they were not profitable from a money point of view. This leads me somewhat to things that have passed. For instance, I once came right here to your State and happened to be going through Kansas City and I stopped over to watch a sale. I was getting large horses simply for the work they could do in order to do more work with less machinery expense. These horses which were selling came up from Carthage and I topped the sale at $280 for a mare; I also bought the next highest-priced mare for $225. I sent the mares out to a farm I had in Nebraska, and the mare I bought for $225 was bred to a right good kind of a horse. She raised a yearling colt and a fellow came from Kansas and he paid me $700 for that yearling. That looked good to me. And we made more money on the same mare. I came into your State one time and bought a mare and paid $500 for her, took the mare home and she sold for the highest price I had ever sold a horse for up to that time—$1,160, and we were so excited that the auctioneer knocked her down at $1,160 when the man was plainly heard to bid $1,200. So you see what really money-making propositions you have here in Missouri.

I notice that they spoke of beginning with these horses at birth. Oliver Wendell Holmes is credited with a statement relative to what should befall every young man. He starts in with the grandfather—and there is a whole lot of that in regard to horses. A whole lot depends upon the grandsire and so on, the same as with yourself.

After you get on the scene yourself and you have to do with the horses themselves, then comes this question of feed. The point having been raised, I want to suggest the use of whole oats rather than ground oats. It is much easier to make the weight with rolled oats, I think. The feed is lighter, it is all there, and you can get the worth of it. We feed it ground, on the pasture, and you don't find the animals passing any grain. The animals get the full benefit of it. This roller which I am using cost me $110, and I think for any man with a bunch of horses it will pay for itself in a very short time.

The question of alfalfa and clover has been brought up. If you want a good pasture in the summer time when blue grass gets dry use some field on which you think you have failed in raising alfalfa. After weeds and wild grass, the worst enemy of alfalfa is blue grass, and I suppose you pat yourselves on the back as raising good blue grass. I think the blue grass that comes up in the alfalfa at four years old is a blessing. Up to that time your alfalfa will be six to ten inches above the blue grass and the stock will take a part of each, so there is no danger of bloating.

There are varied circumstances under which we must operate. When I brought that $225 mare over I admit she wasn't the best mare in the world, but she has done well and is still doing well, but as in all lines of live stock, the crux of the thing would seem to be the sire. That has come to be so commonly believed that people don't pay the proper amount of attention to the mares, and of course that is where a great many fail. I am certain, however, that the sire is the point of real consideration. With many of you your start would probably be with a pair of mares. Every farmer should have at least one or two good draft mares. The value of the draft mare is largely dependent upon the draft sire that you have at command. I don't believe that it pays anyone, and I strongly advised a friend of mine who was bound on buying a very high-priced mare at a sale not to do so unless he intended to send that mare away to be bred. In making this selection of the draft sire you should simply bear in mind the points that we have all been harping on, but I think certain things we should look for in drafters. It seems to me that the size would come through the sire. I don't believe in getting the size through the mare. But admitting that you have the size to come through the sire, the next thing that we want is what would be the quality of the sire. I don't want to be misunderstood. When I mean or say size I mean size sufficient. I don't think a person who raises pure-bred draft horses would want to court a 1,600-pound draft sire. In that respect the size would be the controlling factor. We will assume that the draft sire should weigh 1,800 pounds or better, and then you come to quality at once and you must have finish. He must have the appearance of the sire. He must impress you not only with his form and conformation and the fact that he measures up to the requirements, but the impression which he conveys to your mind is that he is a draft sire. He has the heart girth, the eye, which would bespeak the sire, the neck, crest, carriage, movement, action and dash and breed character. It settles itself in certain individuals, largely.

We understand there have been no horses that were perfect, so we have to content ourselves with the best we can get, the best that we can afford, and I think there are some of these things which are the very essential.

When it comes to the mares, I do not think the best results, as a rule, are obtained through the largest mares, yet when I say that I recall three instances which are directly opposite. I had one mare which would weigh in work condition over a ton; another one in show condition would probably weigh 2,100 pounds—big mares that were grand breeders—and the mare, Iolantha, of which you have heard, was a large mare and an exceptional breeder, but generally I believe the mares around 1,700 to 1,800 pounds will give more and better colts. I am satisfied of one thing; most of the show stock with which I have acquaintance come from stock of that kind.

My policy has been to divide good things with the people, yet there are some mares I wouldn't sell to the people at all. There are a great many good mares and a great many sold young which have every reason to be as good as the older mares. I do not believe any man in the business can afford to sell all of that kind all the time. I never have much faith in a farm where everything is for sale, because I don't believe it is in the realm of possibility for a man to build up his stock and build up his business and be willing to sell all of his stock at any time.

There is another class of stock that you don't know what to do with, and that is the mare that you don't want, that you don't want your neighbor to have and that you don't want some innocent party to have. The best thing you can do is to take the loss yourself and sell her as a work mare.

The requirement for the sire should be soundness. With the mares I would say "serviceably sound." It has been a little more difficult to keep the mares good because you work them. I do not pay any attention to an unsoundness which would not be hereditary, but I dislike anything of the hereditary nature and put it out of business just as soon as possible.

The colts are the really interesting end of the business. Colts intended for show should come as early in the year as possible, for the fair managements prescribe the age dates from the first of the year. If you will pick your best mares for that purpose you can manage to take care of one or two colts, give them special attention and bring them along so they will make a good show. You have that privilege and right. For the bulk of the colts, when they come along on grass, we feed them just as Professor Trowbridge has told you they should be fed. We give them some grain and try to get the growth into them, with plenty of exercise, and we always save a pasture for them during fly time—a pasture that is partly shaded and partly open, and then they get their extra feed. Later we classify these colts and the stallion colts are separated from the fillies at weaning time. They should be on another part of the farm so that they never know they are stallions and then you can run your fillies and studs in bands and do it successfully.

I shall speak of but one kind of a sale. I have never been much of a private salesman. We sell occasionally privately, but I always like the gatherings of the public sales. I got my first experience from Mr. L. M. Monsees. Public sales always appealed to me. I like that way of disposing of stock. I think you get what they are worth. Some go high and some low, but you get their value. There are a great many things which go to make up the success of a public sale. There is about as much of "don't" as "do," and you are all more or less familiar with these. It comes right back to doing about the way you would want to be done by. Aside from that there are certain little things.

In making a public sale a good idea is not to have a discrepancy in the offering. You cannot sell very many foals and many aged mares. An offering of that kind is a hard one to sell. I think that as a rule the uniform offering, speaking of a certain standard or type, is the one which makes the best sale. The feeding of the stock is a great proposition. The stock must not be loaded down with fat, but it must be in fit condition. Regarding the method of conducting the sale, you have attended so many that you know those which are most in favor, and I want to say to you that if you want to popularize the draft breed—and there are not enough of you to do it—a proper combination sale would do so. The combination sale can damn you or make you. If you let every fellow put in what he wants it will damn you. If you will not accept anything that is not meritorious you will still get enough of the plainer sorts. You must work the sale system out for yourselves. The Experiment Station here is the best place to hold your combination sale.

PUBLICITY FOR THE HORSE WITH A "PULL".

(T. W. Morse, of "The American Breeder," Kansas City.)

The draft horse from the standpoint of most draft horse producers has to be considered under three important heads: as a source of farm power, as a commercial commodity, and as an agricultural institution. Publicity to fully meet the merits and needs of the draft horse in this broader sense must go farther than merely to find a buyer for this or that particular animal which one may have for sale. It must make the draft horse as an institution better understood, more highly thought of and more generally talked of. To do this and to do it right his merits as a source of farm power and as a commercial commodity must be played up and proven beyond any possibility of doubt. The publicity that brings this about must interest your neighbor to come to you and learn where he can get some good stock like your own. It must make your banker willing to carry some enterprising young farmer for enough money to get started with a few money-making draft mares of his own. It must teach the street corner talent the facts in the case to the extent that when they get together to settle the future of the horse business they do not talk against the best interests of the community off of which they make their living.

It must impress your local editor until you find him shortening his editorials on "Free Trade" and the "Philippine Policy;" cutting out his neighborhood gossip and boiling down his eulogies of "Popular Citizens" in order to get space enough to tell whose geldings and what kind brought the most money from the horse buyer, what kind of mares it takes to raise the first prize mules Mr. So-and-So showed at Kansas City, and to give interesting and intelligible accounts of the neighborhood colt shows and of the draft horse exhibits at the county fairs.

It must appeal to the school teacher and reach her or him in such form that appropriate use can be made of it in the classroom, and through its use the smaller sons and daughters be given a better idea of the nature and dignity of the farm's business as well as of its opportunities.

It must commend the subject of its propaganda to the girls in the country until, in their confidence that it is the draft horse which in the long run buys the auto, they feel no slight of having to take an occasional buggy ride behind a team more marked for stability than for speed.

It should bring into the life of your son the profit in dollars, the excitement of competing and excelling, and the satisfaction of always seeing something better ahead, without which no real live, red-blooded boy stays contendedly on the farm excepting from a strong sense of duty.

It must carry to your "better half" such assurance of the permanence of the business as will forestall all apprehension on her part when you find it necessary to take a big roll of yellow-back bills and start out in search of a new stallion to head your herd of mares.

In fact, the arguments of this publicity must become so much a part of you that you live them every day of your life; that they will be reflected in the polish of the harness your road team wears; in the good-conditioned coats of your mares and colts and the high quality of your stallion; in the soundness and integrity of your methods and in the business prosperity which almost certainly attends a wise, conservative and competent application of correct draft horse ideals and practices.

In many a community at first the whole neighborhood and the cook had to be convinced, but it surely came if the pioneer himself was able to start with good material, knew what he was doing and was possessed of that double-distilled confidence that the course he had chosen was right.

It is therefore not a national draft horse propaganda that is needed in this connection so much as a home campaign in every county, in every community, on every farm. Such live stock and agricultural papers of general circulation as are aware of actual farm conditions and have provided themselves with any editorial ability along that line have all done something toward farm horse improvement in the direction of more weight and draftiness. In this way many arguments, illustrations and items of news have been put out which profitably could be copied by local papers and quoted early and often by all who want to see this kind of gospel spread. Every draft horse man should help to get such items and figures into print and into talk.

This desired generation of a draft horse atmosphere where it is most needed is so much a home affair with every one of us who is interested that for the balance of this talk I wish to mention just some of those particular things which (to change my simile and come down to earth) will inoculate the field of our endeavor with the bacteria most favorable to the spread and better development of draft horses.

In the first place, the horses themselves must be such as to constitute their best advertisement. They must be sound, healthy, well cared for, true drafters without bad faults of quality or conformation, and be so trained and handled as to make a good impression and meet all proper requirements. Our home people will not be impressed with outside evidence as to the merits of the class if a good case cannot be made at any time by an exhibit of the specimens at home.

The home breeders' methods of handling draft horses, of buying and selling, must have a look of practicality. If you are in the business your methods must be such that your neighbor similarly situated can see where he can get into the business on a similar footing. Many a man who has need of draft horses on his farm has been deterred (and in many cases absolutely scared out) by the idea gained at big draft horse shows and sales that he would have to have a lot of box stalls, foreign grooms, flannel rubbing cloths and tissue paper rosettes before he could make a start. I do not wish to be quoted as advocating just exactly the following method, but it might help a whole lot if the suggestion were dropped now and then that draft colts can be grown with success in very much the same way as we would bring along a bunch of good beef calves: A bunch of draft weanlings in a roadside pasture, showing a hundred pounds each for every month of their age and raising themselves —with the aid of a self-feeder, the blue grass, a rack full of bright tame hay and plenty of fresh water—constitutes a form of publicity hard to beat.

People will talk, and if the draft horse business of your community is organized in such a way as to give them plenty of things to see and say in its favor a mighty good start has been made. Take a pleasure in telling those who will listen (and pass the good word on) how much your colts weighed as yearlings and how easy it was to make that weight. Show them that your colts are ready to work a year younger than is customary with the native horses, and that their broad, well-covered shoulders do not wear sore under the collar or their muscles shrivel from sweeny so readily as was often the case with the green horse of lighter build. They take home these points. And when you have geldings to sell, make them right and sell them where the price they bring will be good for a week's general discussion and a fair-sized item in the county paper. Write the item yourself, for that is the only way to be sure it is given correctly. There are county paper editors a plenty who will thank you for helping them out to that extent. Then when the farmers' institute or extension department experts come to your town get the college to send a good live stock man. Get out as many good drafters, yours and your neighbors, as you can. Secure a good lecture on the draft horse for farmers, with some pointers on draft horse, care, size and conformation, illustrated with the animals themselves. In this way you get the right standards fixed in the minds of your neighbors and quietly catch onto a few points yourself, as you have the chance. Every time something like this can be done the appreciation for the best stuff is increased and the tolerance for inferior animals is lessened.

The county officers, the city officers, the preacher, the banker, the superintendent of schools, can and doubtless will easily be interested in furthering a business that means so much to the welfare of their locality. We have a long way yet to go before we dignify this business as it deserves and as it is dignified in the old countries of Scotland, England, France and Belgium. We received at our office the other day a photograph from a small breeder in the northwest part of the State showing a postgraduate class of high school girls who came to see his Percherons, as a part of the preparation they were making for county teachers' examination. And what better could they be learning for their work in country schools? We make the children learn the parts of speech, the capital of Persia and the products of Paraguay. Why should they not learn, among the early things at school, the names and characteristics of the leading breeds of farm animals? It is good advertising to help them—at least so far as the class of stock in which you are interested.

Business arguments are always in order. There is many an opportunity to get the actual figures on a dollar's and cent's profit from using draft blood. Every time you can put into circulation a plain statement of the facts in such a case it is just as truly worth while as increasing your yield of corn. On many a farm the same mares have produced colts, first from inferior stallions and later from good registered draft animals. In hundreds of cases the development and sale of these colts, side by side, has proven the case of the drafter beyond any possibility of doubt. But the evidence has not been worked for all it was worth. As a rule, it never gets beyond the realm of neighborhood gossip, and there the owner of the scrub stallion is always on the job and often will manage in some way to cloud the issue. It is well worth while to write out the facts of every such case. Get them straight. Mention no stallion owner's names, but make it clear that it was the colts by the registered draft stallion that made the best money. Cut out the element of personal advertising and you can count on your home papers and the better class of live stock papers making use of what you send. We not only print everything of this sort that appears to be fair, but we suggest to our readers that they get their home papers to copy. It is also a good thing to give your home paper briefly the prices which pure-bred draft stallions, mares and fillies bring in the market where this kind of stock is current. Often he exchanges or can exchange with agricultural papers that give such facts. Get him started and he may keep it up himself. Extremes in prices, however, are not educational unless full explanation is given with them. Two points to be made are that it costs something to go out into the national market and buy foundation stock, and that the business, once started, is supported by a steady demand at good figures.

The part that draft blood plays in the production of our highest-priced mules is one of the most important arguments in its favor. The American Royal Draft Horse Show last fall furnished one of the most striking examples of this fact. As far as I could learn by making careful inquiry, almost every prize winner in what is conceded to be the most high class mule show ever held was out of a mare carrying draft blood. Some were out of very nearly full-blood mares. It was the draftiness of the mares, added to the undoubted quality back of both mares and jacks, which put the premium on the ten head bought by Mr. W. R. Crackel of Indiana at the record-breaking price of $3,800.

I believe that a man's attitude toward other interests than his own has an important bearing on the consideration which the world will give his interests and opinions, and also his achievements. Legitimate advertising and pushing of your own live stock is approved as an evidence of enterprise and a matter of business, but begin directly to decry some other interest and you weaken your position. I do not mean by this that any man should stand for crooked competition or misrepresentation. This, in common honesty, calls for attack not of the thing which the other fellow has, but of the methods he employs. But we have no fight against the automobile, the saddle horse or against any other good live stock that fills a legitimate place in business or pleasure. This is too big a world for friction to exist between the good things which make it up. And (getting down to details) we who own Clydes or Shires have no quarrel with the Percherons or the Suffolks. To ascribe to a breed the faults we find among its less desirable individuals is either ignorance or jealousy. In all breeds where business is active and competition keen the faults of conformation are apt to be disappearing faults, for the effort of every live breeder is to cull them out and to breed them out. Likewise, among the owners of draft stallions standing for public service any rivalry which goes beyond a good-natured competition to get the best class of mares and (as a result) produce the most good colts is likely to react. The biggest object to be achieved is to get the mare owner's co-operation (if you really have brought them stallions that warrant it) and then work with them for more colts, better colts, better-cared-for mares and colts, and finally, a class of horses in the community that will bring the best buyers and make them compete for what you have to sell. Many a community in the United States has done this, and in those communities the best farm profits in horses are made.

Exhibitions and direct advertising through various uses of printer's ink are so much associated that I shall talk of them together, but not at much length. Either one is subject enough in itself for a complete paper, but I believe that a discussion from experience is the best way to bring out the facts in both. Exhibiting animals is almost always a mixture of public service and good advertising, so far as it is beneficial. Few men exhibit primarily for the money they can win. Of such there is really only one distinct class. To it belongs the fellow who waits to learn the rings at his county fair in which there will be no competition and then slips in with just enough animals to fill the openings. Usually his animals have been so brought up that they do not mind three or four days at the fair without feed or care. This reduces his exhibition expenses to the minimum so that he pockets a cash profit. The rules of most fairs afford a remedy, but too few superintendents have the nerve to instruct a judge that he must not award premiums to animals that are clearly not deserving. The foregoing can be considered only as an example of how not to exhibit and so is not needed here. It is well to remember, however, that an exhibit of this sort hurts any breed to which it pretends to belong, and it is worth while to incur a few hard feelings if necessary by insisting that rules governing such cases be observed. No one man ought to have to do this. It is disgusting enough to incite a riot.

Of all kinds of draft horse exhibits the colt show is the livest proposition known, and its influence has brought improvements in the country, state and national shows. There is still plenty of room to improve, and the opportunities to make colt shows more interesting and instructive are almost without limit. Following and combining the examples which some private colt shows have set, a county fair association could profitably organize its draft horse division to cover something like the following:

It should first carefully canvass its territory and see what classes were necessary to provide for the pure-bred breeding animals, giving each breed a classification, say for three ages, but allowing neither ribbons nor money to be awarded except for merit. Two classes for teams in harness (mares or geldings only) could then be made, the lighter one open to grades only and the heavier open to grades and pure breds. These could be for horses under, say 1,600 pounds and horses of that weight and over. Three grade classes each could be made for colts and yearlings sired by draft stallions, say for colts from mares under 1,200, from mares 1,200 and up to 1,450, and from mares 1,450 or more. The draft horse men of the county should see to it that the prizes for colts out of the 1,450-pound mares should be slightly more than for colts out of mares under 1,450. Mares above that weight are the ones that begin to give draft horse reputation to a neighborhood, and it pays to recognize them. A championship class can also be provided to which the only first prize winning colt from each of the other classes should be eligible, and in this class only one ribbon should be given. Another mighty interesting class is for brood mare and two or more colts, and in such a class it might be well to require that at least a sucker and a yearling be shown with the mare, the mare to count one-third of the entry and the colts (two or more) to count two-thirds. This requires a mare to show that she can repeat on the good ones and at the same time does not put a young mare at too much of a disadvantage. Then I think the draft horse men should co-operate in the mule show in some way to bring out the influence of draft blood in the mares. It might not pay to take any part in the class for sucking mules. Dairy quality in a mare often has more to do with making a winner than does form or quality of bone and muscle, but in classes for yearlings and two-year-olds some good special premiums paid for best mule shown with its dam ought to bring out some lessons that are worth while.

These are just suggestions for helping a county fair to show the benefits of good draft blood in a farming community. If they are to be carried out with good effect two or three special facilities must be provided. First, the judge must be as fully competent as it is possible to find. Nobody can be found who knows too much. Probably the best way is to apply to the animal husbandry department of your State college and make it plain that an absolutely competent man is desired, and that you expect to pay him for good work. There are some good judges among the horse market men who have had a breeder's and feeder's experience. Scales should be used, if possible, to determine exact weights. Any scale company will set up a good pitless scale on your grounds for the sake of the advertising. If the superintendent will organize his work he can weigh up and tag a lot of stuff in an hour. The classes outlined call for weights of only teams and the dams of entered colts, but weights on every entry card lend interest and help the judge. The exhibits, both in stalls and in show ring, should be so handled as to give the public the best possible chance to see. It is the public interest and approval you are after. Signs and show cards at the stalls should tell the passer-by the things he wants to know, and space along the stalls should be kept cleared and clean. Falling over manure piles and cracking shins on feed boxes in their efforts to penetrate the mysteries of blanketed and implacarded exhibits has discouraged many possible customers who sought to satisfy an inborn interest in better animals by visiting the live stock exhibit.

Missouri Home Makers' Conference.

OFFICERS.

President—Miss Alice Kinney, New Franklin.
First Vice-President—Mrs. J. Ed. Hall, Lamonte.
Second Vice-President—Miss Louise Stanley, Columbia.
Corresponding Secretary—Miss Bab Bell, Columbia.
Recording Secretary—Miss Pearle Mitchell, Rocheport.
Treasurer—Mrs. Cora Chapin, Appleton City.

ADVISORY BOARD.

Mrs. N. H. Gentry, Sedalia; Mrs. Marie T. Harvey, Kirksville; Mrs. F. B. Mumford, Columbia; Mrs. W. C. Hutchison, Jamesport; Mrs. Scott Cunningham, Palmyra.

REPORT OF THE SECRETARY.

(Miss Pearle Mitchell, Rocheport.)

The Missouri Home Makers' Conference met Tuesday, January 13, 1914, at 10 o'clock. A message of greeting was read from Mrs. Chivvis of the Missouri Federation of Women's Clubs. The conference president, Miss Kinney, in her address laid stress upon the power of women to improve the conditions of home making and farm life. She urged the necessity of more earnest work along the lines of child welfare. She advised women to take more interest in the scientific and sanitary rules for butter making. She announced the chairman of the various domestic science departments which were to hold meetings during the conference and where the proposed plans for experimental work and contests would be explained. Miss Kinney also gave her ideas regarding the benefit of a woman's farm produce exchange.

Mrs. Harry Sneed of Sedalia made an interesting report of the International Congress of Farm Women at Tulsa, Okla. Miss Louise Stanley gave a fine report on the International Congress at Ghent, Belgium. She thought the education of girls one of the most interesting subjects discussed. It was thought by some speakers that modern girls received more instruction in painting, music and dancing than in the home arts, and in religious training. Miss Stanley spoke of an exhibit of work of Missouri College of Agriculture, which work she took there and which attracted much attention. She told of the scarcity of milk as a food product in Belgium, and stated that it was due to the milk being sold to dealers and that the children were fed on tea and bread to their detriment.

Mr. J. Ed. Hall was introduced and explained a plan he and his wife had for offering a trophy worth ten dollars for the best exhibit of canned vegetables, this contest to be open to girls from sixteen years and over. The conference accepted with enthusiasm the offer.

Plans for county organizations were told of by Miss Bab Bell. She announced that she would go to the assistance of any who requested the organization of local home makers' clubs. Miss Mary C. McDonald spoke of "County Organizations as Related to the Mothers' Organization."

The conference listened to Mrs. Charters on "Child Welfare." She spoke on the "Moral Training of Children," and thought the first problem was what should be taught them about religion. All moral training should be positive, she thought. Children naturally follow the example of parents, and the first effort in training should be directed by the parents against themselves. Mother should learn to relax when nerves were unstrung and before they reproved or punished their children. All character, she said, was built on struggle, and the child who fought the hardest to overcome his faults would probably be the strongest character when grown up. Discussion of child discipline followed, in which arguments for and against the use of the old-fashioned rod waxed warm and earnest. Mrs. Flournoy talked on "The Courtesies in the Home." She said that example is the best method for teaching this to children, and that coming into contact with frequent guests in the home was a medium of encouraging the habit. Discussion followed bringing out various suggestions.

Mrs. Harry Sneed gave a report of the Pettis County Home Makers' Organization. The club was organized in 1912 and at each meeting subjects of rural interest were discussed. Contests in sewing and bread making had been established. There are 200 members, and one of them, together with the school directors, visit the country schools. Many lines of work are being successfully conducted.

The report of the Johnson County League was given by Mrs. Hutchison, who said the club was the result of the moving school which was conducted last summer under the auspices of the College of Agriculture. The main effort of this club is to make home more attractive to the boys and girls. She thought home conveniences most important. She told of a gasoline engine which cost $40, and it was turning the washing machine, the cream separators, pumps water and does many other things. This county organization has 200 members, the membership being divided into districts.

Mrs. Phillips told of the Jackson township organization. This township has no railroad in it, but in 1909 a fair was held which brought people together and aroused the spirit of progress. A year ago a high school was established and the women organized to assist. The club is called the Jackson Township Improvement Association. Mrs. Phillips said the most earnest workers in her association were the women who lived in the plainest homes. She advocated the naming of country homes.

Mrs. Cora Chapin told of the Rural Improvement Club and the Appleton City Club. She said they both sent delegates to the biennial meeting of the State Federation of Women's Clubs and to the International Congress of Farm Women at Tulsa, Okla. They had introduced lectures and various literary and social entertainments, besides contests in household economics lines. Contributions to various philantropic objects had also been made.

The meetings of the various departments of the Home Makers' Conference were so numerous and scattered that it was difficult to obtain reports of each, but in so far as possible all written addresses and club reports were collected for the annual report. The executive board recommended holding semiannual meetings of the board at such times and places as the president shall decide.

WORK OF THE HOME MAKERS' CONFERENCE.

(Miss Alice Kinney, New Franklin, Mo.)

Many of you will recall the interesting item that went the rounds of city and country papers last summer in which it was stated that Secretary Houston of the United States Department of Agriculture was sending out 50,000 letters to that many farm women throughout the country requesting them to write to the Agricultural Department at Washington the true condition of their homes and suggest the solution that they thought would meet these conditions. We have not been able to locate a single letter, although we hear that a deluge of replies went to the department, and in due time we shall be given a summary of these letters.

If you were conjecturing the nature of these letters what would you assume the dominant key to be? Would it be one of utter loneliness and separation, would it reveal a life of endless drudgery and no personal change ahead in the road of life, or would the dissonant tones tell of the deprivation of equal privileges for the farm woman's children when compared with what others are receiving in the great world? Unquestionably all of these and many others will be put into the great melting pot of justice and emerge a great potent power for the betterment of the woman on the farm.

While we are willing to admit that these conditions are not always what we should desire, yet it is far from just to either women or farm life to acknowledge that it is a necessary factor of this life, and that it more frequently arises from the lack of some mental quality to meet and overcome conditions rather than from its natural environments. Some of these women would not meet other conditions of life any better as is shown daily in small towns and cities.

Many women have given all that is dear to the human heart to brave the wilds to make successful homes, but they carried with them that inherent power to conquer conditions, and though the homes were crude yet their children and every phase of that isolated life radiated their mental influence. On the other side, there are thousands who have been denied the opportunity whereby this power could be developed and have gradually sunken deeper and deeper into this hopeless mental outlook, passing the same conditions onto their children. If it were not for the helpful influences of our rural schools the future would indeed be dark.

These are the problems that this organization must meet, for farm women, by their sympathetic understanding of similar experiences, are the logical ones to help solve and apply the ways and means. These are not the women you meet at a conference like this—women who are competent to give as well as receive—but through this council all gain the stimulus to reach out and take hold of neighborhood conditions. Helpfulness is the necessary spirit that all club women must have.

Do you realize the privilege that is yours today, how you can help? All can see the wonderful vision that is coming to those who join hands in bringing cheer to so many lonely, unsatisfied women in rural communities.

The Missouri Home Makers' Conference during its first few years was full of formulating useful programs, thus hoping to attract and interest the farm women. Today we realize that an annual meeting is not sufficient to meet its growing usefulness, so a few departments have been created, and through these avenues of effort we hope to come in closer touch with varied interests of farm life and yet keep them broad enough in the outlook to embrace State and general problems of mutual interest.

The scholarship to the home economics department of the University of Missouri was the first effort in this direction, and through it we were able to offer one girl its advantage last year in the tomato growing contest. This past summer the prolonged drouth put all of their efforts out of commission, but with great joy we hear they are eager to enter the race for the coming year's contest.

The child welfare department was organized last year to meet a demand that has been felt all over the State. We are slowly realizing that Missouri's best products are the boys and girls, and that we have too long neglected them. Our State Board of Health gives us most appalling statistics on child death rates; the State lost 10,000 children last year under five years of age. As a small effort toward stemming this terrific tide we last year started a baby health contest. Thirty babies were entered and were physically measured and judged by a score card; these score cards were sent to the parents in the hope that they might awaken interest in other parents.

This year the health contest is continued and various other lines of child welfare work will appear on the program. Mrs. Charles W. Greene of Columbia is chairman of this department.

The dairy department will appeal to those who so carefully look after the butter and kindred valued articles of food. Butter, we believe, is handled with less system than any other farm produce and is marketed in the poorest condition, when it demands all the detailed care that can be given it. Through this department we hope to get women to enter and take up the record of one or more cows as to their yield of milk and butter fat, also cost of feed. We feel that the attention thus given will cause many to stop and think over the profit side. All feed, whether for cows or chickens, has a commercial value, and women have reached a time when they must measure up their efforts and see if the balance is on the right side of the ledger. The chairman of this department, Miss Mabel Burks, Kingsville, R. F. D. 27, will be glad to hear from all women interested in dairy topics.

This year we are launching an egg laying contest under the directions of Mrs. R. Lee Alford of Vandalia, Mo., who will conduct the poultry department and furnish all information regarding the rearing of pure-bred stock and a score card for the egg laying contest.

We are hoping through these various departments to reach every member of the county organizations as well as individual women over the State in some one of these farm interests. We hope to have many act on our committees, as each chairman will make her committee as large as is necessary. The Missouri Home Makers are hoping to get into operation this next year an exchange by which we may enable our farm women to find the customers they need for their surplus fruits and vegetables, and provide the consumers the goods they want through some businesslike arrangement. In this connection it may be well to ask, "Are we prepared to meet the demand that seems to be looking to the farm homes to help solve the question of a lower cost of living?" We must remember that the more direct the trade the greater the responsibility which goes with it, for that is what buyers pay for. This direct trade develops another obligation. Each party is looking to get the difference in the dollar over the long accepted 35 per cent. Hence, there is the necessity of a spirit of equal sharing, each giving and receiving the mutual benefit of direct trade.

The Missouri Home Makers' Conference cannot express too deeply their appreciation to Mr. and Mrs. J. Ed. Hall of Lamonte, Mo., for the valued interest they are showing in our Missouri girls by offering to the one who will most successfully can six jars of vegetables, grown by herself (these to be judged at the next annual conference), a prize valued at $10. Mrs. Hall, our vice-president, has ever been a most loyal and helpful co-worker. While no girls grace the Hall home, this generous offer shows hearts tender for all girls and insures an equal showing with the boys.

We welcome with sincerity all to our conference family and want you to feel at home at once and permanently; call on us whenever we can be of service to you; tell us of your needs and we will do our best to meet them. With your help we hope to make this coming year with our efforts win a permanent place in your lives and home circle.

GREETINGS FROM MISSOURI FEDERATION OF WOMEN'S CLUBS.

(Mrs. W. R. Chivvis, St. Louis.)

Your State president wishes, at this opening session of your 1914 meeting, to extend to you her hearty good wishes for a most enthusiastic and helpful conference.

To her mind the work of this organization is of utmost importance in the development of State resources, since you consider, primarily, the direct problems of the home.

The greatest problem of this day of problems is how shall we reach the greatest efficiency in the home at the least expense and at the same time maintain a high standard of living? This is distinctly a woman's problem. It includes every phase of sanitation and home economics as well as child welfare, and is so broad that we can never escape it but must face and solve it.

You will, therefore, readily understand why the club women of our State look to your organization to lead in thought and action toward the protection and perfection of the home. As a result of its further efforts we hope to soon see the study of domestic science a part of the program of every school in the State. We require our young men to prepare themselves for their life work and to demonstrate their ability before we are willing to give our daughters into their keeping, but do we require that our daughters be prepared for their life work at marriage?

Recently it was my good fortune to listen to a demonstration by Miss Bab Bell of the Missouri State Board of Agriculture, and ever since I have wondered how we might bring just such talks to every woman in our State. It occurs to me that your conference might join hands with the agricultural department of the State, and with the active co-operation of the State Federation we might induce the railroads to furnish a domestic science car which would be constantly going from one town to another (and please do not neglect the city also) giving a perpetual demonstration of an ideal kitchen (with talks on kitchen sanitation, etc.), a simply-furnished bedroom (with talks on bed making, etc.), giving certain hours to lessons and other set times to inspection and exposition.

I have one other suggestion: Our State Federation is taking steps to hold a club woman's day at our State Fair next fall. May we have the help and co-operation of your Home Makers' Conference in making that a profitable as well as a happy day?

I assure you of my sincere good will toward your officers and members, and bid you an earnest Godspeed in all your efforts.

OUR WORK AND OUR PLANS.

(Bab Bell, woman's institute lecturer, Missouri State Board of Agriculture.)

The Missouri Home Makers' Conference held its seventh annual meeting in Columbia January 12th to 16th during Farmers' Week. Probably every woman of the State knows what Farmers' Week is, but how few know the real meaning of the Home Makers' Conference.

The Home Makers' Conference was first organized in 1908 while Dr. Edna Day, now of Kansas University, was the head of the home economics department in the University of Missouri. The main object of this organization is to unify the housekeepers of Missouri (town and country) in an effort to better their own home conditions and to help future homes by encouraging the introduction and development of home economics in all the schools of the State.

Oak Grove Home Makers' Club, St. Joseph, Mo.

In many places there is not a clear conception of the possibilities of the organization. Every woman in the State is eligible and should feel that the conference belongs to her. It should serve the same purpose to the women as Farmers' Week does to the men. To the women who want to keep in touch with the increase of scientific and practical knowledge concerning home duties the conference offers a practical solution. Oftentimes, owing to household duties, they cannot attend the normal schools or the universities. However, many can find time to spend a week in Columbia, where they can get invaluable information on home work.

The demonstrations and lectures on the following subjects should have been of vital interest to every home maker: "The Convenient House," "Clothing the Family," "The Home Makers' Conference," "Food and Its Uses," "Sanitation in the House," "Cooking Vegetables," "Mineral Matter," "House Decoration," "Preservation of Food," "Daily Menu," "Cooking Meats." This was in reality a "short course" for the women of Missouri. While the attendance was good and unusual interest was manifested, how many women failed to avail themselves of this opportunity?

Dadeville Home Makers' Club, Dade County.

During the last session the Home Makers' Conference had four departments represented—"Child Welfare," "Poultry," "Dairying," and "Canning." An endeavor will be made the coming year to create other departments. What these departments are will depend upon what the women of the State want. Any woman desiring information concerning the various departments may obtain literature on the subject of "Child Welfare" from Mrs. C. W. Green, Columbia, Mo.; "Poultry," Mrs. Lee Alford, Vandalia, Mo.; "Dairying," Miss Mabel Burks, Kingsville, Mo., R. F. D. 27; "Canning," Miss Alice Kinney, New Franklin, Mo.

It is the duty of every woman to make this work a success. Why not make this organization the strongest in the State? Why not join now and get copies of the proceedings when they are published? For information concerning membership address Mrs. Cora Chapin, Appleton City, Mo.

Farmers' Week, from the home makers' standpoint, at least, was one of the most successful in its history. It was very gratifying to note the eager response of the women to all work pertaining to the home. There now seems to be a general awakening to the importance of this work. Judging from the general attitude and the spirit of progressiveness, Missouri women should make rapid advancement in all phases of home activities.

MEANING OF HOME ECONOMICS.

No subject has received so many criticisms as the subject of home economics. Too often it is looked upon as something which deals with the superficial side of home making—this probably is due to the fact that formerly many of our boarding schools really gave this kind of training. The work of home economics really treats of every phase of home life—every problem which confronts the housewife in her daily routine of work. Home making is now treated as a science, and it is a science. There are many names for this work—household art, domestic art, household science, domestic science, or science of home. They all mean the same or a part of the same. The two terms with which most of us are familiar, cooking and sewing, lead to erroneous opinions of the work. While both subjects are included they do not cover the whole field.

Eagleville Home Makers' Club, Harrison County.

The newspapers, the popular magazines and the press at large are constantly maintaining that the work of home economics has advanced hand in hand with agriculture. From my own experience throughout the State of Missouri this is an untruth. In most localities the home is progressing, but because of a later awakening has not shown an advancement in proportion with agriculture. Why is this? The reason is very obvious.

MISSOURI WOMEN NEED HELP.

In the first place, agriculture is an older subject. The attitude toward this movement has completely changed. No longer is it criticised. Generous appropriations have been made for colleges, short courses, experiment stations, farm advisers, etc. Every attempt is made to reach all farmers. Railroad corporations and bankers' associations are now joining forces to aid the farmers. We see the splendid results of the great work, and no one questions the wisdom of the expenditure of the vast sum.

On the other hand, it is only recently that the importance of the work of home economics has been recognized. It was only in 1912 that the State Board of Agriculture added to the staff of institute lecturers a woman who gives her entire time to this work. However, the women are awakening to the fact that more money will soon be necessary and that all they have to do is to claim their share of the State funds. The State is willing and eager to help. There is an erroneous opinion that home economics concerns the farm women exclusively. It really is of vital importance to every woman. The success of the work in the State of Missouri depends upon the co-operation of the women. Every woman should know it as her right and duty to give serious thought and suggestions to the State Board concerning what help she really wants. Any suggestions will be gladly received.

One of the most effective methods of reaching the women of the State is by means of the Home Makers' Clubs. Since very few of the women can attend the normals, the University, short course, or even the Home Makers' Conference, the State Board of Agriculture is endeavoring to supply this lack by means of club work. The plan of organization is very simple, only three officers being necessary—president, vice-president, and secretary. There is absolutely no cost attached. Lectures or demonstrations can be obtained, at no cost to the club, on practically any subject desired.

SUBJECTS THAT INTEREST ALL.

These Home Makers' Clubs hold regular monthly or semi-monthly meetings and plan a regular course of study for a year's work. Each member suggests subjects in which she is interested, then a committee is appointed to plan the program. This program is mailed to the State Board of Agriculture, which prepares references on each subject and returns them to the club. A new outline has been published containing all of the late references. For each month special subjects are suggested suitable for study during that particular time of the year.

The Missouri State Board of Agriculture is working for better conditions in the homes, and is eager and willing to help. We see the success of the work in other states, and believe Missouri should be second to none.

Home Makers' Club of Woodbine, St. Joseph, Mo.

HOME MAKERS' CLUBS OF MISSOURI.

The following clubs, with four exceptions, have been organized since June, 1913: The Home Makers' Clubs in Paris and Sedalia were organized by Miss Nelle Nesbitt, then a representative of the State Board of Agriculture. The village Improvement Club of Centerview, Johnson county, was organized by the women of the town in 1912. Mrs. E. W. Vogel organized the Home Makers' Club in Salem, Dent county, in 1912. Audrain county, one; Buchanan county, four; Chariton county, two; Clinton county, one; Cape Girardeau county, three; DeKalb county, one; Dade county, four; Dent county, one; Grundy county, one; Harrison county, three; Jackson county, four; Lafayette county, two; Monroe county, one;

Montgomery county, one; New Madrid county, two; Pettis county, two; Pike county, one; Ralls county, one.

The above results show the attitude toward the work—everywhere the women are responding with the greatest eagerness. Each club takes up some special work aside from its regular program. For example, in Buchanan county one Home Makers' Club has given entertainments which netted $70. With the money they are planning to excavate the basement of Oak Grove schoolhouse in order to have a place of meeting for the club. Later they intend to purchase a home economics equipment for the school. Many of the town clubs often take up civic improvement. Others aid in home economics contests.

CLUB SUGGESTIONS.

1. Read the constitution and by-laws very carefully.
2. If you join a home makers' club do it with some definite aim in view, not because some friend joined.
3. The assignment of topics for papers or demonstrations should be made six months or a year in advance, thereby enabling the ones on duty to obtain the references.
4. Use the bulletins given as references.
5. Subscribe for a good woman's magazine.

Walkenhorst School Distric
Home makers club 1914

Walkenhorst School District Home Makers' Club, Lafayette County.

6. Use the books furnished by the Missouri Library Commission.

7. Become a member of the Home Makers' Conference—a State organization.

8. If you want suggestions for new work write to the State Board of Agriculture for assistance—it will be given promptly and willingly.

9. No club can exist long unless it is doing something. It must be of value to the home or community. What is your club doing? What plans have you for future work? Aside from the regular routine of study each club should have a special work.

The women of Missouri by means of the home makers clubs can effect a state-wide organization. With such an organization they should be able:

1. To secure State aid for home economics work in Missouri.
2. To secure county woman advisers on the same basis as the county farm adviser.
3. To make home economics compulsory in the State course of study along with agriculture.
4. To improve the rural schools of the State.

Concordia Home makers club 1914

Concordia Home Makers' Club, 1914, Lafayette County.

5. To secure co-operative laundries for country women.

6. To raise the standard of the home economics exhibits at the county fairs by securing competent judges, by the use of the score cards and by getting women to see the educational advantage of home exhibits.

7. To aid in the establishment of canning clubs.

8. To introduce the "home canner" into country homes.

9. To bring about civic improvements.

The women of the State are to be commended for the interest manifested in this work. Judging from their general willingness and their spirit of progressiveness, many counties will soon boast of organizations similar to the famous Pettis County Home Makers' Club.

COOKING OF MEAT.

(Louise Stanley, Ph. D., department of home economics, University of Missouri.)

Miss Stanley.

General Ways of Cooking.—A large part of every receipt book is given over to a discussion of the ways of cooking meats. Leaving out of consideration the preparation of left-over meats, we can put them all under one of three groups: 1, those in which we are aiming to keep in all the flavor—only the tender cuts can be cooked this way; 2, those in which we wish to keep as much of the flavor as possible, but which are so tough as to require a certain amount of cooking with water to make them more tender; 3, those which are so tough that in making them tender all the flavor is extracted.

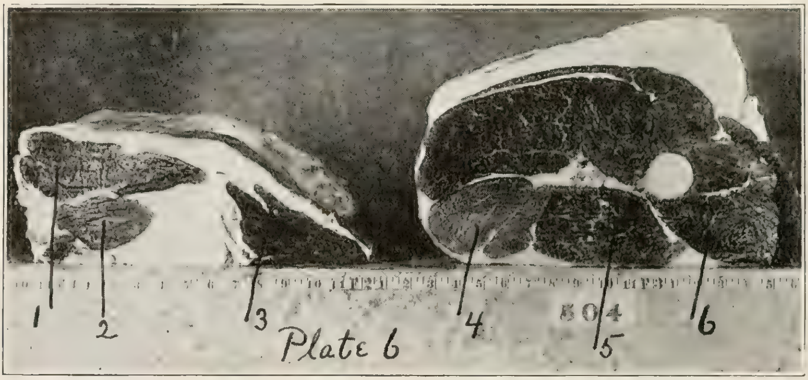
Before discussing in detail these methods we should have some knowledge of the cuts of meat and the characteristics of each. We can discuss these only briefly here. For a more detailed discussion see article by Dr. Trowbridge, Report Home Makers' Conference, 1911, from which the following tables are taken:

TABLE 1.—DISTRIBUTION OF LEAN, FAT AND BONE, GOOD BEEF.

Cut.	Lean, per cent.	Fat, per cent.	Lean and fat meat, per cent.	Bone, per cent
Rump	38.9	39.6	78.5	20.4
Flank	40.5	58.4	98.9	0.3
Shank	41.1	2.1	43.2	55.9
Plate	55.3	30.1	85.4	13.8
Loin	57.6	29.3	86.9	12.5
Shin	58.2	4.5	62.7	36.2
Rib	59.4	23.8	83.2	16.1
Neck	67.2	8.5	75.7	22.6
Chuck	73.8	11.7	85.5	14.5
Round	81.4	9.1	90.5	9.1

TABLE 2.—COST OF EDIBLE LEAN MEAT TO THE CONSUMER, GOOD BEEF.

Cut.	Selling price per pound, cents.	Cost of lean meat per pound, cents.	Cost of lean and fat per pound, cents.
Shank	5.0	12.2	11.6
Shin	8.0	13.7	12.8
Neck	10.0	14.9	13.2
Plate	10.0	18.1	11.7
Chuck	14.0	19.0	16.4
Round	18.0	22.1	19.9
Flank	10.0	24.7	10.1
Rib	18.0	30.3	21.6
Loin	22.0	38.2	25.3
Rump	15.0	38.6	19.1



Note difference between round and arm. Number 1 indicates the loin back muscle; 2, the tenderloin; 3, the flank muscle. The tenderloin is very tender, but is usually not considered as well flavored as the loin back muscle. The flank muscle is cut lengthwise of the fiber and is relatively tough. In the round cut attention is particularly called to the separate muscles, 4, 5 and 6, of the outside of the round. Muscle 6 is tender, but muscles 4 and 5 are almost always tough.

The essential points or principles underlying the preparation of meat can probably be brought out best by describing one or two typical examples under each head. The roast is probably the best example to take for the first group.

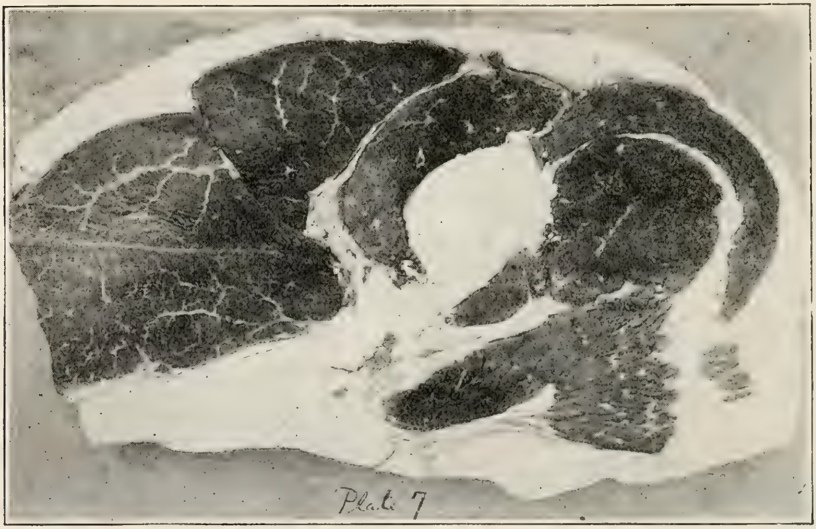
Roasting.—We use for roasting only the tender, well-flavored pieces of meat. Probably the cut best adapted for this purpose is the rib. The chuck from a good animal may be used, but is not so desirable since at this point the muscle is so much divided and the shoulder blade comes in. This can, however, be boned out, and in a good animal makes a delicious roast. The rump makes a nice small roast, but taking into consideration the large proportion of bone, is not a cheap cut. A porterhouse roast, while considered by some as quite choice, is correspondingly expensive, and is difficult to obtain on account of the demand for porterhouse steaks.

Having chosen a rib cut, and less than two ribs will be too thin, the bone may be taken out and the roast rolled or the bone left in. If the former is to be done, the butcher should be told before the roast is cut off, because in this case it is cut longer, long enough for the fat portion to wrap completely about the eye of the beef, and so protect it during the cooking process. The rolled roast is much the easier to carve, while leaving the bone in is considered by many to improve the flavor, and the arched rib bones serve as a natural support to keep the roast off the pan. In case the roast is boned out, have the butcher send along the bones and trimmings, for they will be useful in the soup kettle. In case they are left in, be sure the butcher does not break them, as in that case they will not serve as a support and are not so effective as a means of keeping in the juice.

Preparation for the Oven.—The roast should be removed from the paper as soon as it comes from the market, as the paper simply serves to absorb the juice. In preparing it to be cooked, simply wipe off with a damp cloth. It should never be washed, because that is unnecessary and would remove some of the flavor. For roasting, use any uncovered pan that is sufficiently large.

How Hot Shall the Oven Be.—Place roast in the pan on a rack or something to hold it off the bottom with the fat side up. In order to keep in as much of the flavor as possible it is now necessary to form a coat over the outside. This is accomplished by putting the roast into a very hot oven (250C) for about fifteen minutes. If the roast is a very large one it may take longer to brown to just the right point as the roast itself will cool down the oven considerably. At the end of this time the extractives will have formed a brown crust all over the outside, which will serve to hold in the juice and any volatile flavors. Our object now is to keep this crust intact until the roast is done.

If the high temperature is maintained it would soon cause the outer portion to become overcooked, and since it would be harder for the heat to penetrate, the inner portion would remain almost practically raw. On this account the temperature of the oven must be lowered (to about 175 degrees) and held there until the roast is done.



When cut from the lower side the round bone of the arm shows, giving a cut which has some resemblance to a round steak and for which it is sometimes sold.

When is It Done?—Fifteen minutes to the pound is one rule, but this is inaccurate, since the rapidity of cooking will depend to a large extent upon the shape of the roast and whether there is a large amount of fat or bone. Some state it in terms of so many minutes for each inch in thickness, and though this is a more accurate way to base the time it is still a bit inaccurate. By far the best way is by the use of a thermometer. The thermometer is inserted into the thickest part of the roast, and the temperature of the interior of the roast at this point is an accurate indication of the color of the roast at that point. Since we are cooking for a color the thermometer tells us just when the roast is done. It is the simplest, easiest and most accurate way.

An ideal standing rib roast taken from a very fat show steer.

A little experience soon enables one to so time the roast that it is ready at the time needed, while the thermometer simply enables you to gauge accurately when this moment has arrived. It should be borne in mind that the outside of the roast is at a very much higher temperature than the inner portion and that when the roast is removed from the oven the heat travels in both directions, increasing sometimes the temperature of the interior of the roast to the extent of several degrees.

Basting with Water is Bad.—But what about the basting, you are probably wondering. That is the point at which most women fail in cooking a roast. The feeling that if a thing is to be well done it must involve extra work predominates, hence the bending over the pan and the periodic dipping up of the tried-out fat and too often along with it the water that has been added, supposedly to keep the roast from burning. That coat which has been so carefully formed over the outside of the roast is soluble in water, and every time that you dip a spoonful of water and spill it over the top of the roast a small portion of the crust is washed away and with it some of the flavor of the roast. Then perhaps the coat is washed through completely.

In this case the juice from the inside is let out, and also some of the volatile flavors escape.

Baste Only with Fat.—But how should it be basted? Only with fat. This coat is insoluble in fat, so it can be used without any danger of breaking our seal. But it is a back-breaking process to dip up the fat which has tried out in the bottom of the pan, so we take advantage of the fact that the fat tries out slowly and place the roast in the pan, fat side up. As the fat tries out it trickles down the sides, and rather than breaking the seal helps to hold it, keeping in the juices and flavor.

Self-Basting Roasters Should not be Used in a Roast of this Type.—What are the arguments for and against the self-basting roaster? It may be used very successfully with a fowl or for a pot roast—in fact, in any case where water will not be a disadvantage. The moisture given off is condensed on the top of the pan and drips back down on the roast, having just the same effect that basting with water would. Furthermore, the steam held in by the covered roaster keeps the crust from forming in the way it normally would. For a good and tender roast, a pan without a cover and the roast cooked as outlined above is the simplest, easiest and the most economical way, and the resulting roast is the juiciest and the best flavored.

Broiling.—In broiling, the principles are the same, only the meat is cooked directly over flame or coals, the form of radiant heat. The heat is ideally applied to both sides at the same time, in any case to the two sides alternately, and since the steak is so much thinner than the roast the time required is much shorter. Here we can gauge the cooking much more accurately according to time. Four to six minutes are allowed for a steak one inch thick, while for a steak one and one-half inches thick eight to ten minutes should be allowed.

The steak should be wiped as in above with a damp cloth, then put on a broiler under hot flame, turning as soon as one side is seared to sear the other. After this the heat should be decreased and the steak turned constantly until it is done. It should be turned between two forks and not pierced with a fork. Wherever the cover is pierced the juice has an opportunity to escape. After the meat is well seared the cooking can be finished in the oven. In this same group should be included frying, which is an example of applying heat through the medium of hot fat. The meat is immersed in hot fat and cooked in this way. Only tender cuts are suitable for such treatment. Sauteing, where the meat is cooked in a very small amount of fat, is quite similar to pan broiling. In pan broiling the procedure is the same, only the meat is cooked on a hot griddle instead of by means of radiant heat. Since there is no means of draining off the fat it is quite similar to frying.

Pot Roast.—For a pot roast we use a piece of meat which, though the muscle is not very much divided, the piece is too tough to cook without the addition of some water. The round is one of the cuts most often used as a pot roast. In this case, while we must use water in order to make the meat more tender, we are anxious to keep in all the flavor we can. In order to do this we form the coat on the outside just as in the first case, only here it seems a bit easier to do this by means of fat in the kettle in which the roast is to be finished cooking. So some of the beef suet is tried out in an iron kettle and the roast is browned on all sides in this, after having been dipped in flour or not, as one chooses. Then something is put in the kettle to hold the roast off the bottom and a small amount of water added. This amount will in any case depend upon the toughness of the piece of meat; a cupful to each pound of meat will in most cases be found to be sufficient, while less may be used for the more tender pieces. Vegetables and seasonings of various kinds may be added.

Stew.—A stew is cooked in just the same way, only in the case of the stew the meat used is such that is not adapted to being cooked in one large piece, either on account of the presence of bone, toughness or because the muscle is so divided. In this case the meat is cut into uniform squares and each is browned as the above.

Since the gravy is so important a part of the stew, we must see to it that it is well flavored. This is accomplished, in part, by the dissolving off of a portion of the outside coat, which is unavoidable, but to make it more sure, the trimmings of the meat or a few unseared pieces are put to cook in the water which is to be used in cooking the stew. More of the flavor will be gotten out if the water is cold.

Vegetables are considered an essential part of a stew, the kind varying with the individual taste. Certain names have come to attach themselves to stews made from certain combinations of meat and vegetables. Since the vegetables are as a rule not improved by the long cooking necessary for the meat, they are usually added when the stew is partly done.

Fireless Cooker for Meats.—All meats cooked in this general way need long, slow heat, both to prevent the over-coagulation of the protein and the excessive evaporation of water, which means that it will be necessary to use more water. They are especially well adapted to cooking in the fireless cooker. There the heat is slow and uniform and can be continued for several hours without any danger, while at the same time the moisture is held in by the tight cover. Such meats are quite as nutritious as the more expensive cuts, and if well prepared have a good flavor, only we must keep in mind the fact that it is usually necessary to add some outside flavor.

Meat Soups.—The last group is represented by soups. For these we use the cuts of meat that are well-flavored, but either are so tough that it seems impossible to try to make them tender, or those in which the muscle portion is so much divided as to make it worthless for the usual uses to which we put meat. Here our aim is to extract the flavors as completely as possible and along with it to get as much of the soluble gelatine as possible. Since heat hardens the protein and helps to hold in the juices we put this on in cold water, the meat having been cut up as much as possible in order to have the water come in contact with every part of it. The easiest way to chop it is by means of the meat grinder. Before doing this one must determine the use to which the meat is to be put. The mixture is then heated up gradually and kept for several hours at a temperature just below the boiling point. This dissolves out all the flavoring constituents and much of the gelatine. Any protein, other than the gelatine and a few simple forms which may have dissolved out, is coagulated as the liquid becomes hot and floats on the top as scum. It is removed when the soup is strained.

While we have in the clear soup all the flavoring portion of the meat, very little of the nutritive portion is left. It has the same food value as would be obtained if some beef extract should be mixed with a very dilute solution of gelatine. For this reason it is so dangerous to rely upon broths and beef extract in cases of severe illness.

The following plate, taken from article by Dr. P. F. Trowbridge and which has been referred to elsewhere, gives the two views of a side of prime beef, and shows the relative position in the animal of the different wholesale cuts. The carcass shown in this plate yielded the following percentages of the different wholesale cuts:

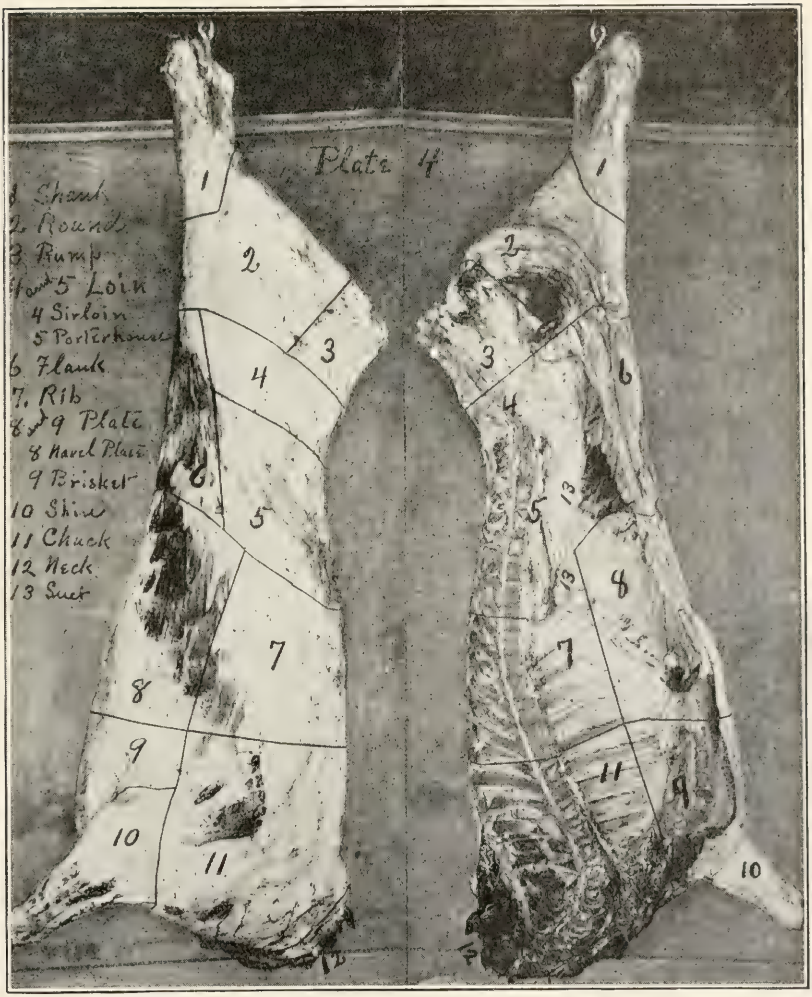


Plate 4
1 Shank
2 Round
3 Rump
4 and 5 Loin
4 Sirloin
5 Porterhouse
6 Flank
7 Rib
8 & 9 Plate
8 Navel Plate
9 Brisket
10 Shin
11 Chuck
12 Neck
13 Suet
1
2
3
4
5
6
7
8
9
10
11
12
13

1.	Shank	2.7	
2.	Round	17.0	
3.	Rump	3.5	
4 and 5.	Loin	17.8	
6.	Flank	2.5	
13.	Suet or kidney fat	2.4	
	Total hindquarter		45.9
7.	Rib	10.1	
8 and 9.	Plate	15.5	
10.	Shin	4.5	
11.	Chuck	23.0	
12.	Neck	1.0	
	Total forequarter	54.1	
			100.0

COUNTRY CULTURE CLUB, HUDSON, MO.

(Mrs. Jessie Ellis Holland.)

Once again to have the privilege of meeting and mingling with you in this annual Home Makers' Conference gives me very great pleasure.

In the twelve months which have passed since I met with you here in 1913 many things have transpired in our lives. While the year was yet in its infancy, our hearts were filled with many and varied hopes and aspirations for the year's work. I doubt not that most, if not all, of us here today have seen a part of our cherished hopes culminate in the glory of a full realization, while others just as fondly cherished and as much striven for have fallen blasted and withered at our feet.

So it has been in the last year's work of the Country Culture Club of Hudson, Mo., which I have been requested to present to this conference.

Although our club is just a "babe" yet, as it were, still we feel that we have passed the experimental stage in club work, and our organization has become almost a necessity to the country women in our community.

If you will glance at our yearbook you will see that we have continued the study of home economics, combining it with French history. Much interest has been taken and much reading has been done by the members, and as a result many instructive talks and interesting papers have been listened to.

In the report of last year's work I think I told you that we belonged to the State Federation of Women's Clubs. This year we have joined the General Federation, which is nation-wide. In this way any news of club work, no matter where situated, has become interesting to us.

Aside from our regular monthly programs, we have had a number of lectures and other entertainments.

First, came Dr. Herman Pierce of Kansas City, giving us his lecture on "School Sanitation and Hygiene." This was pronounced very fine by those who heard him. Our second number was a lecture on home economics given by Mrs. Flora Greene of Columbia, with whom most of you are acquainted. Both of these lectures were free to the public and were heard by people who would not think it possible to attend our regular meetings. Two first-class impersonations have been given under the auspices of the club. These made possible a pleasant evening entertainment to a large number of people and at the same time helped to augment our club treasury. In August we gave an ice cream social which proved successful both in a social and a financial way. Our third annual reception was held in October and about seventy were entertained this year. This feature seems to be gaining in popularity each year.

Before we close the year's work we have decided to give an oyster supper, which will probably conclude the social events for this season. As is our usual custom, we again aided the Farm and Home Improvement Club with its annual picnic and fair which was held in September. J. Kelly Wright, institute lecturer for the State Board of Agriculture, was secured to deliver the principal address. We also presented the Farm and Home Improvement Club with a large lamp, which aids in lighting the building in which meetings are held. At Christmas we sent small donations to the International Sunshine Society, the Florence Crittenden Home and the Antituberculosis Society. By appointing a committee to solicit donations over the telephone we secured $75 in twenty-four hours from club members, neighbors and friends, which amount was promptly forwarded to the Red Cross Society, to be used for the benefit of the flood sufferers.

Our youngest club member was sent as a delegate to the biennial meeting of State Federated Clubs, which convened in Columbia in May.

The annual meeting of the Fifth district was held in Appleton City in November, and many of our members attended. At the International Dry Farming Congress, held at Tulsa, Okla., in October, we were represented by Miss Della Blew, who returned to us with a very interesting report of this assemblage. And lastly, four of our members have traveled the intervening 125 miles that they might be in attendance at this convention of the Home Makers' Conference. This is but a brief review of the things accomplished through the Country Culture Club during the past year.

We now number thirty-five members and the interest is increasing. Our aim is to do more and better work in the coming year than we have in the past. With the poet we believe,

> "Give to the world the best you have
> And the best will come back to you."

THE JAMESPORT FORTNIGHTLY CLUB.

(Mrs. W. C. Hutchison, Jamesport, Mo.)

The Fortnightly Club of Jamesport since its organization in 1911 has done much to stimulate culinary development and household economics.

This year's work has included the following subjects: Resources of Missouri, Legal Status of Missouri Women, What Missouri Should Do for Her Women, Home Building, Sanitation, Decoration and Economy, Dress, Eugenics, Relation of Home and School, Composition and Classification of Foods, Civic Improvements in Relation to Women's Organizations, and House and Garden Flowers.

Unusual interest has been manifested. A leader was appointed for each day and the lesson followed by general discussion and suggestions.

At each club meeting the hostess has been given some class of foods from which to make her demonstration, and a lecture giving the history, use, nutritive value, composition, and method of preparation was required. Several members were grouped in the demonstration of well-balanced and economic breakfasts, luncheons and dinners, and were required to report cost of same.

Jamesport having one of the most beautiful parks in Northwest Missouri, this club has its garden parties there, inviting the progressive men of the town, where all in united effort arrange flower beds, build park benches, whitewash trees, and aid nature in making these attractive grounds the pride of our town.

RURAL IMPROVEMENT LEAGUE OF JACKSON TOWNSHIP, JOHNSON COUNTY.

(Mrs. Ivan W. Phillips, Plumbrook farm, Kingsville, Mo.)

Jackson township in Johnson county has no towns, only two little country villages, and no railroad within its bounds. The farms, for the most part, are owned by the people who live on them, and range from about 80 acres to 200 acres in size.

At the time our league was organized we knew nothing whatever of the Home Makers' Conference. We merely came together to meet our own particular needs. To make these needs plain to you involves the telling of some work attempted and accomplished by our citizens.

In the fall of 1909 the "street fair" craze seemed to take our part of the world by storm. It was suggested by somebody that one should be held at Elm, the village nearest the center of our township. The fair was held and proved such a success that the people present voted to make it an annual event.

In February of last year County Superintendent R. H. Boston called a meeting for the teachers, school boards and patrons of the township at Elm. Among other subjects discussed at this meeting was the rural high school. Located as we are 10 or 12 miles from any high school, it has been necessary for the children to board away from home if they attended. Those present became so interested in the matter that a later meeting was called to discuss more fully ways and means for building and maintaining a rural high school at Elm.

A number of citizens, whose children had finished our eighth grade work and were ready and anxious to go on, felt that they could not afford to allow them to wait on the uncertainty of voting consolidation for high school purposes. So they with others formed a stock company, selling shares at $25 each, to provide for the erection of the house.

Up to this time the women had helped, mostly by talking and urging the plans forward, but now it seemed the time had come for more material aid to be given. This, we thought, could be more effectually accomplished by organized effort than in any other way. When the matter of organization for women came to be talked about—mostly by telephone—so many things presented themselves that might be helped by co-operation on our part that the idea was gladly accepted, and on May 12th, 1913, the Rural Improvement League of Jackson Township came into existence. The extreme dry, hot weather affected our plans very much last summer. Our people, depending almost entirely upon agriculture for their living, were especially hurt by the short crops and poor water supply for stock. In the face of these conditions the league has put a Waterbury heater and acetylene lights in our high school building, besides several of the district schoolhouses have been helped in matters of comfort and cleanliness. We felt that in this way education would be helped by making the "workshops" more agreeable. We also encouraged the preparation of school exhibits for the various corn shows, and succeeded beyond our expectations.

The league meets quarterly, while the community clubs in each district, of which it is composed, meet some monthly and some every two weeks. These meetings in themselves advance sociability. At the league the ladies from the northeast meet those from the southwest, and we find out what really interesting people are our neighbors and that we are all concerned in the same great movement, that of lifting ourselves and our boys and girls to a higher plane of usefulness.

One means toward "providing attractive environment" has been the naming of our farms. I think it is calculated to make the boys and girls, and older people, too, take more interest in the appearance of the place. They are more likely to clean out the fence rows, drag the roads and keep the fences in good condition if the name of the farm is over the gate. And they are more particular about the quality of produce that is sold with the farm name backing it.

We feel that our last year's work has not been in vain and are looking forward to greater things in the future. Next year we expect to have our own lyceum course, even if we are ten miles from a railroad station.

REPORT OF INTERNATIONAL DRY FARMING CONGRESS AND INTERNATIONAL CONGRESS OF FARM WOMEN.

(Mrs. Harry Sneed, Sedalia, Mo.)

The wonderful meeting of these two congresses was held at Tulsa, Okla., October 27 to November 1, 1913. The Dry Farming Congress had its birth eight years ago, and in 1911, when it met at Colorado Springs, Colo., the Women's Congress was organized as an auxiliary, and a lady from Canada was its first president.

The next year they held their meeting at Lethbridge, Canada, and Mrs. Belle v.D'Harbert of Manzinola, Col., a real farm woman, who understands the conditions of farm life, was chosen president and succeeded herself at Tulsa this year.

Tulsa is a beautiful city of about 35,000 inhabitants, and as it is in the heart of the oil regions its wealth is in evidence everywhere, and the gracious hospitality of the people won the hearts of all the visitors.

The boy scouts are especially deserving of mention. Sixty-five of these gallant, courteous boys offered their services for the week, and fairly outdid themselves in escorting us around, running errands and carrying messages, all for which they would not receive one penny of compensation.

The first morning as soon as we were settled at our hotel we went out to see what was going on, and found the procession, headed by Governor Cruce and his party, was forming to march to the exposition grounds two miles distant from the city. We at once took the car so that we might reach there before the crowd and get a good seat. We had not long to wait until the official party, headed by the band, marched to the platform. Hon. W. I. Drummond, chairman, in a few fitting words declared the Congress formally opened and then introduced Governor Cruce of Oklahoma, who bade us welcome to the state and city and spoke of the universal brotherhood that had brought together many tongues and many nations in a common cause. This address of welcome was responded to by Dr. John A. Widstowe, president of the Agricultural College of Utah. Following this came greetings from Belgium, Greece, Brazil, China, Japan, Russia and Hungary. These talks were short and it was quite difficult for some of the speakers to express themselves. The Hon. W. R. Motherwell of Saskatchawan, Canada, president of the Dry Farming Congress, was then introduced. A beautiful young girl came forward and in a most pleasing and gracious manner told how the school children of Tulsa wanted to show their appreciation of this gathering in their city. The boys of the manual training department had made a gavel to be used in presiding over this great congress. Amidst cheers from the audience the young girl presented the gavel to the president on behalf of the 4,000 school children of the city.

In the afternoon the International Congress of Farm Women was opened by Governor Cruce. He said this coming together of women meant better humanity and better homes. "Women stand for the good of humanity and better citizenship, which means better womanhood and better government." After a short address by W. R. Motherwell, Mrs. Harbert, the president, told of the work of the congress with its membership of 200,000 women, representing twenty different nations.

Mr. Yun from China then told of the women of his country. Ten years ago there was not one school in China that a girl could attend, except the missionary schools. Today there are hundreds of them and sixty newspapers are managed by women.

The ambassador from Greece said that for 500 years his country had been under Turkish government, and the continual wars have taken their best men and the boys are leaving for America as fast as possible, so only the women are left to till the soil and care for the children. He hoped to be able to take back something to them that would be helpful and inspiring.

Dr. Edna Jackson Carver of Denver, Col., spoke of keeping the right mental attitude and said, "It is a great thing to earn a living, but it is a greater thing to live a life."

Miss Fannie Clement spoke of the Red Cross rural nurses and said there should be better methods for raising babies as well as better methods for agriculture.

Miss Jessie Field very interestingly told of her experiences as county school superintendent in Iowa and her work in the rural schools and homes.

Miss Anna Taft of New York City spoke of the church for farm boys and girls and the importance of the Bible being taught in the schools. She said the first country movement was when the children of Israel went up to possess a better land.

Our own Mrs. Marie T. Harvey of Kirksville, Mo., told of the possibilities of the one-room schoolhouse. Her lecture was illustrated and showed the wonderful work she is doing.

Many other interesting subjects were presented and discussed, but we will not have space to tell of them here. The whole congress was rich with inspiration and uplift, and surely better homes and better farming must be the result.

Mrs. McCreevy of Carmen, Okla., gave a banquet to the governors' appointees to the Women's Congress, some of the foreign delegates and Mrs. Harbert and Hon. W. R. Motherwell. This was a delightful affair which we enjoyed very much. Following it was a reception given in honor of Governor Cruce, and it was attended by more than 2,000 persons.

Dr. H. J. Waters, president of the Kansas Agricultural College, was elected president of the Dry Farming Congress, and next year the meeting of the International Dry Farming Congress and the International Congress of Farm Women will be held at Wichita, Kan.

ENCOURAGING HOME CANNING AMONG GIRLS.

(J. Ed Hall, Lamonte, Mo.)

We are very much gratified to see such interest manifested in the farm boy in way of corn growing and stock judging contests, which tends to keep him contented and in love with the farm. This is as it should be. But we feel that as much should be done for the farm girls.

Since the girls of today are to be the home makers of tomorrow, if we are to have the best of homes we must train the girls for this work. By the economical management of the home maker there are greater possibilities to save money. But not alone to save money must we consider this. The greatest gain comes to the well-trained home maker in the form of greater health and happiness for the family, less sickness, greater opportunities to work, and to enjoy life.

The qualifications of a good home maker cannot be valued in dollars and cents, because their effects in the home cannot be bought with money. These must come through careful training. Feeling the great importance of this Mrs. Hall and myself have decided to offer to the girls of Missouri from sixteen years up a canning machine valued at ten dollars. The requirements are that the girls, unaided, must can four varieties of vegetables—corn, peas, beans and tomatoes—using no acid, and exhibit them at the next Home Makers' Conference to be held in Columbia, Mo., during "Farmers' Week," 1915, where their products shall be judged and prize awarded.

The aim of this is not only to train the girl to do these useful things, but that she may be able to earn something for herself which gives her a feeling of independence that she does not have when she is entirely dependent upon others. They will also not be so anxious to answer the lure of the cities that leads so many of our girls away where they are lost to home, friends and society.

If we can interest them along these lines they will be helped to see attractiveness of life on the farm and of fitting themselves for that highest of all callings—that of a well-trained home maker.

THE STORY OF "LADY" AND HER OWNER.

In submitting the following letter from Miss Hazel Pipes of Rocheport, Mo., Miss Kinney, in charge of the dairy department of the Home Makers' Conference, writes:

"These parents have discovered the magic power of how to keep their only daughter and child on the farm. May we hear from many more at the Home Makers' Conference in 1915." Miss Pipes writes as follows:

"I am enclosing a picture with my report of the pure-bred Jersey cow, Lady, and calf, which my father gave me. The calf was permitted to run with the mother until it was five months old. On November 7th I began milking Lady and by January 7th had made and sold 60 pounds of butter. During the time this record was kept the cow had no feed other than that furnished by pasture at 75 cents per month. Expenses for this would be $1.50. The butter, sold at 25 cents per pound, brought $15, leaving a net profit of $13.50. The work was not hard and took but little time. It was really a great source of pleasure. When Lady again comes fresh I hope to get scales in order that I may keep an accurate account of her milk and

As the kodak caught "Lady" and her owner.

butter. I wish I had some means of testing for butter fat. As you requested my age, I will say that I am fourteen. I thank you for the interest you and the Home Makers' Conference have shown in me and in my work."

AGRICULTURE IN PETTIS COUNTY SCHOOLS.

(T. R. Luckett, superintendent, Sedalia, Mo.)

Agriculture has been taught as a regular part of the daily program in the rural schools of Pettis county since 1908. It has been attempted to make the work a little more concrete and practical each year and to be governed a little less by the textbook.

This work, though usually considered essentially boys' work, has been given to boys and girls alike, and the girls have shown fully as much interest and enthusiasm in doing things such as testing soils, selecting seeds according to science and common sense, testing seeds for purity and for germination, as their brothers. At the same time it has seemed that if boys were given this work something should be done for the special benefit of the girls, and in 1911-12 Miss Higginbotham of Anderson school, Miss Sullivan of Camp Branch and Miss Vaughan of Maplewood gave their girls lessons in needlework.

At the State Fair in 1912 Miss Higginbotham gave a demonstration of this work with a class of five boys and five girls. The girls worked on garments and used the different stitches while the boys each sewed on buttons and made a marble bag. The boys also were taught to put on a neat patch, to mend a tear and to darn a worn place in heavy goods such as men wear.

Several more schools took up the work of their own accord that winter, and by the close of the term in April, 1913, quite a number of schools were doing good work along this line.

In the summer of 1913 the Pettis County Home Makers asked what could be done to help the girls, and it was suggested that they get the mothers in the different districts organized for the purposes of visiting the schools in a systematic manner and of helping teachers and pupils by giving the work their moral support. Last fall a letter was sent to every teacher suggesting work of this kind and naming a set of sewing tablets which could be used as a guide and text. About seventy-five per cent of the schools are teaching some needlework at the present time.

Last September Miss Bell, institute lecturer for the State Board of Agriculture, was looking for a place to start a model school in the teaching of home economics. Visiting Camp Branch school, she at once decided that she had found the right school, and when the matter was presented to them they promptly raised the money for the equipment, which was installed in a small fuel room fitted up as a kitchen, and since that time the class of five young "home makers" prepare and serve lunches to the other classes in the school, the materials being furnished by those who are to enjoy the lunch.

HOME ECONOMICS IN RURAL SCHOOLS.

(Bab Bell, institute lecturer, Missouri State Board of Agriculture.)

The rural school, the subject of much discussion in the past as well as the present time, is again coming into prominence. The feasibilty of introducing home economics into the one-room school is being considered. The main arguments against the work are lack of funds, teacher's lack of training, and in a case a man is employed, how could the subject be presented?

In the first place, we realize that whenever as much money is expended on the rural school as on the city school—then, and only then, will we have good schools. Consolidation is advocated and seems to be a real solution to the problem. However, this movement was started several years ago, and although we feel certain that eventually all will be well we know that it will take time.

While we wait for consolidation what are we giving our girls to prepare them for their life work? The city schools are giving excellent training to the boys and girls. In the rural schools the boys have agriculture as it is required in the State course of study. Home economics is in the State course of study, but it is not required. Many teachers, seeing the need of this work, are voluntarily introducing it. Of course, it takes work and a vital interest in the school.

T. R. Luckett, superintendent of the Pettis county schools, is endeavoring to introduce the work of home economics in the schools of his county. Camp Branch school, a one-room rural school seven miles from Sedalia, was selected as a demonstration center.

Camp Branch school.

This school, as may be seen from the picture, is a typical Missouri school, and it would be possible as well as practical for the girls in other schools of the State to receive the same training as the girls of Camp Branch are receiving. The patrons of this school are especially fortunate in having a teacher of exceptional ability, Miss Julia Sullivan. The success of the work is largely due to her untiring interest in the girls. Superintendent T. R. Luckett is also responsible for the excellent results obtained in the school. Through his efforts the State Board of Agriculture assisted in planning the equipment and furnishing free demonstrations on methods of preparing hot lunches for the entire school. In the accompanying picture the five girls may be seen preparing potato soup. This simple, wholesome food is to be served in connection with the lunches brought from home.

Miss Julia Sullivan.

Few parents realize how cold and unappetizing the average school lunch really is. In some rural schools the lunches are allowed to freeze. In such instances the warm soups prove doubly beneficial. The kitchen is supplied with shelves divided into as many compartments (in this instance 35) as there are pupils in the school. Each compartment is large enough to hold a plate, glass, knife, fork, spoon, bowl, cup and saucer.

Preparing the lunch.

Each pupil is responsible for the order, neatness, etc., of his own compartment. By the use of plate, knife, fork, etc., the importance of eating in a leisurely quiet and sanitary manner is emphasized.

EQUIPMENT.

Camp Branch school has the following equipment:

One coal oil stove and oven (three burners), three dish pans, 1 garbage pail, one bread box, one flour receptacle, one kitchen table, three preserving kettles, three cake pans, 5 pie tins, five dish mops, five soap shakers, one water cooler, five mixing bowls, five teaspoons, five tablespoons, three asbestos mats, six wooden spoons, three bread pans, two frying pans, one deep fat frying pan, five biscuit boards, five biscuit cutters, 3 paring knives, five spatulas, one coffee pot (large size), five double boilers, one roaster, three irons, five glass measuring cups, five salt and peppers, one spice cabinet, two wash tubs, one washboard, three irons.

Home economics class, Camp Branch school.

This equipment was purchased at a cost of $40, the money having been obtained from the proceeds of an entertainment given by the teacher and pupils. Fortunately, the school had two cloakrooms—one large room and one small room. It was found that the large room could easily accommodate the wraps of both boys and girls. The smaller room was then used as a kitchen. The door opening into the schoolroom proper may be closed and the meal prepared without disturbing the pupils. Classes continue as usual.

The girls make a study of each food as it is prepared and keep notebooks. The bulletins from the United States Department of Agriculture are the principal sources of references. These notebooks will be on exhibition at the State Fair in September.

The report card now used in this State is a marked success. One of the purposes of giving school credit for home work is to bring the school and home into closer relation. It is hoped that this plan will direct the child towards everyday practical tasks, will train them for service, not merely helping them in the acquisition of knowledge. However, to be a success this home-school work requires the best interest and co-operation of the parents.

SUGGESTED FORM OF REPORT CARD.

....County.

1913—PUBLIC SCHOOLS—1914.

REPORT CARD.

Report of..,

a pupil of the.....................................school.

Age............ Grade........

	I Qr.	II Qr.	III Qr.	IV Qr.
Arithmetic....				
Agriculture....				
Grammar.....				
U. S. History..				
Language.....				
Physiology....				
Civil Gov't....				
Spelling.......				
Writing.......				

INDUSTRIAL WORK.

	I Qr.	II Qr.	III Qr.	IV Qr
Girls.				
Sweeping.....				
Dusting......				
School luncheons........				
Bread baking..				
Sewing.......				
Washing dishes				
Ironing.......				
"Setting" fireless cooker..				
Boys.				
Feeding stock..				
Milking.......				
Currying horses				
Providing fuel.				
Feeding poultry.........				
Dragging the road........				

TO PARENTS.

You will assist the teacher very much by co-operating during the school year in the following plan:

Under "Industrial Work" please report to the teacher each quarter the progress made by your child at home in the different divisions there outlined, using the letters E, G, M, P to denote excellent, good, medium, poor, respectively.

...., Teacher

...., County Supt.

Parent's Signature.

I Qr...

II Qr..

III Qr...

IV Qr..

CERTIFICATE OF PROMOTION.

This certifies that

....

has completed the work outlined in the State Course of Study for the........grade, and is hereby promoted to the........grade.

...., Teacher.

...., County Supt.

Teacher's Signature.

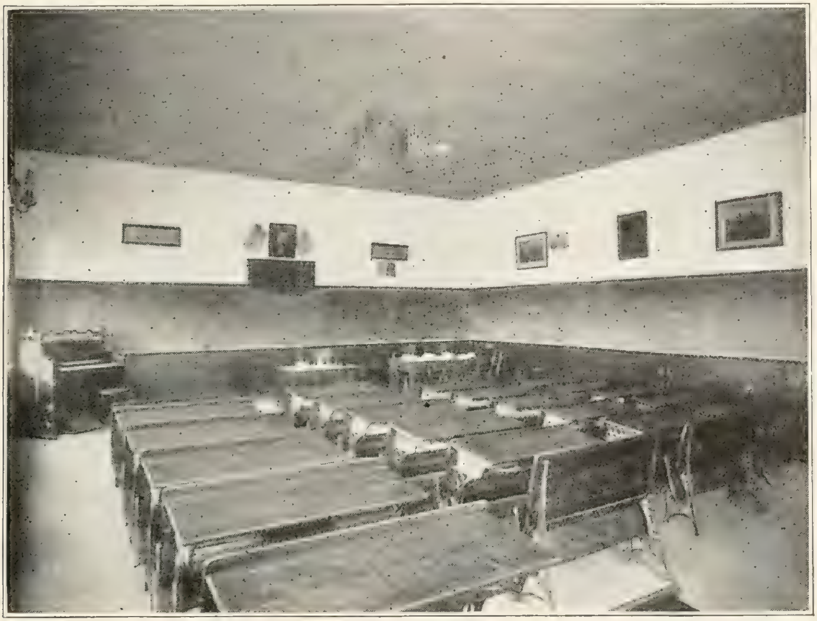
I Qr...

II Qr..

III Qr...

IV Qr..

The preceding report card will be of great assistance in introducing home economics into the rural schools.



Interior of Camp Branch school.

COOKING OF VEGETABLES.

(Louise Stanley, Ph. D., department of home economics, University of Missouri.)

In the cooking of vegetables we have two purposes in view, the hydrolyzing of the starch and the softening of the cellulose. Those vegetables which have no starch and not excessively large amounts of cellulose can be eaten raw. The small boy may eat raw sweet potato in spite of the raw starch present, but he usually suffers from indigestion as a result. Few of us would care to eat a raw beet even though there is no starch present, for in this case the amount of cellulose is so great as to render it unpalatable and indigestible. Both the hydrolyzing of the starch and the softening of the cellulose require moist heat.

In cooking vegetables we should be concerned not only with increasing the digestibility, but also the palatability of the vegetables. This is done by judicious seasoning and combination of flavors, and especially by preserving and keeping as far as possible the natural flavor of the vegetables themselves. As usually cooked, there is a similarity of flavor between most of our boiled vegetables. The usual method is to boil in a large amount of water. This water is drained off and the vegetable is served. Looking at the composition of vegetables, especially green vegetables, we are struck with the large proportion of water and cellulose. They do not furnish any considerable amount of energy-yielding food. That material present which does yield energy is principally in the form of sugar or soluble carbohydrates. We eat such vegetables chiefly for their fresh flavors and the mineral salts which they contain.

Now what happens when we boil vegetables? The mineral salts are soluble and so are the sugars which are present. A glance at the table below will show how large a proportion of these two constituents comes out in the water during the cooking process.

	Water.	Protein.	Fat.	Carbohydrate.	Mineral matter.	Cellulose.
Cabbage, raw	89.6	1.8	.4	5.8	1.3	1.1
Cabbage, cooked	97.4	.6	.1	.4	.13	1.3
Kale, raw	93.3	1.4	....	3.8	.6	.9
Kale, cooked	97.95	.4	....	67.3	.2	1.1

This water in most cases is thrown away. In it we find is contained a large part of the material for which we eat the vegetable in connection with a large proportion of the flavoring material. It seems quite likely that the strong, white teeth for which the negro was noted during slavery time were due to the pot liquor left in the kitchen as refuse, while the indigestible portion of the vegetable or the cellulose with any small amount of flavor which might be left clinging to it was sent into the white folks' table.

Nor is this the only way in which the flavor of our vegetables is decreased by boiling. Some of the flavor is due to volatile compounds or compounds which are given off in the steam. When vegetables are cooked or boiled in an open kettle a large proportion of the flavor will escape in this way.

A familiar classification of vegetables from the cooking standpoint is into strong flavor and weak-flavored. Just where the line is drawn between the two depends upon individual taste. The use to which such a classification is put is that, in the case of the strong-flavored vegetables we are advised to get rid of the excessive flavor by pouring off the water in which the vegetable is cooked. This is the reason for the directions given so frequently in vegetable cooking to parboil and discard the water. Whenever this is done we can see the result will be loss in flavor and food value. By taking advantage of the fact that this flavor is volatile and cooking the vegetable with the cover off a large amount of flavor may be gotten rid of without any loss of food value.

But what will we do with the liquor in which vegetables have been cooked when it is present in large amount? If the vegetable has enough flavor left in to be used without it this liquor may be saved and used as a French woman does in making the soups for which she is so famous. By far the most rational way to use it and the way which is most likely to increase the palatability and consequently the use of our vegetable foods, is by concentrating and combining it with whatever sauce is served over the vegetable itself. In this way we help to develop the individual flavors of the different vegetables while at the same time we are preserving the food value.

Now let's look at the other methods used in the cooking of vegetables from the same point of view. We may steam them, in which case we are supplying moist heat just as we were in boiling, only here, instead of surrounding the vegetables with water at boiling temperature, we use steam. Steam is not so good a conductor of heat as water, as a consequence the time required is much longer than in the case of boiling. In steaming some of the volatile flavors are lost, but they do not seem to escape to the same extent as they do in boiling in an uncovered vessel. At the same time, since the vegetable is not surrounded by liquid, all of the soluble materials are retained or the amount which is cooked out is so small that it can be very easily served with the vegetable itself. Those vegetables which are exceedingly compact can be steamed to better advantage if finely divided. Some, of course, contain so much cellulose that it is almost impossible to soften them at all by steaming. The chief advantages are they need not be watched, and when several things are being cooked at one time there is an economy of fuel.

Baking as a method of cooking vegetables is limited in its use. Any vegetable to be baked successfully must fulfill two conditions: It must have an outside coat capable of holding in the steam and it must contain enough water to cook the starch and soften the cellulose which is present. In baking, while we are applying the heat in a so-called dry form or by means of the hot air which comes in contact with the material being baked, we really are applying moist heat to the interior of the vegetable, because the moisture must be present in the material itself and there must be some means of keeping it in.

This is really the basis of the much-talked-of paper bag cookery which was advocated as being especially advantageous for use in cooking vegetables. Here the bag is used as a substitute for the outside steam-retaining cover and, in case there is not sufficient water present in the vegetable itself, we are able to add more before starting it to cook. In this way the paper bag shell has an advantage over the potato peel or the apple skin, for in these two latter cases we cannot so easily control the amount of water present. We can see the basis for the extravagant claims made for paper-bag cookery. No material is lost and the volatile flavors are preserved.

Another form of cooking which has all the advantages of the paper bags and lacks some of its disadvantages is casserole cookery. In this the earthenware casserole takes the place of the paper bag. While as now made not as steam-proof as the paper bag, they could be made even more so, and even now they hold in sufficient amount of the volatile products for all practical purposes. A great advantage of the casserole is that the material is served in the dish in which it is prepared, thereby insuring that it will be kept warmer than is the case when the material must be transferred from a paper bag to a dish, which in many cases is completely cold and in no case would be heated up to the temperature of the material which is being served. Further, the construction of the casserole is such that it keeps in the largest possible amount of heat, and in this case, as in the case of the paper bag, there is only one dish to be washed.

Frying has not been considered as a method of cooking vegetables because in so few cases do we use it as the original means of preparing them. It is much more frequently used as a method of utilizing left-over vegetables. It might be well here to define what is meant by frying. By frying we mean using fat as a means of conducting heat to the food material. In order that this heat should penetrate from all sides it is necessary that the fat be deep enough to cover the food completely. Since fat can be heated to a very much higher temperature than water, the material cooked in this way reaches a considerably higher temperature. This means that the outside portion will tend to become overcooked very quickly, and when raw vegetables are fried they must be sliced very thin. Usually the vegetable fried is one which has been previously cooked. Even though it is not, we might say, except in a few isolated instances, for example, potato chips, we are still using moist heat. The outside portion of our fried foods are brown, indicating that the dry heat has caused a dextrinization of the starch present, but usually the interior portion is still moist and the effect of the fat has only been to heat it up and change a certain amount of the water over to steam. We cannot on this account fry foods which contain too large proportion of moisture because the intense heat changes this moisture very suddenly over to steam, and may result in a mimic explosion.

Sauteing is a method of cooking which is frequently confused with frying. Sauteing means cooking in a small amount of fat, just enough to keep the material from sticking at the bottom and not enough in any case to completely cover. As applied in the cooking of vegetables, it might be said to result in a method which is a combination between stewing and frying. The fat present tends to increase the temperature somewhat, at the same time making it possible for some of the lower portions to get the effect of dry heat, while the main body of the vegetable is stewing in its own juices. The objections to such a method are that the fat tends to incase the particles of food and prevent the ready access of the digestive uses. On the other hand, this is a method of adding fat to the diet, and if not added in such a way as to become too completely soaked in the food, it adds flavor both by its presence and by the browning effect it has on the vegetable itself.

After the vegetable has been cooked by any of the above plans we are next concerned with the question of seasoning and serving. The ways given in an ordinary recipe book are endless. We can, however, arrange them all in a few typical groups. First, looking at the composition of fresh vegetables, we are immediately struck with the absence of any appreciable amount of fat. In serving vegetables, this is most easily made good by the addition of some form of fat as flavor. Serving the vegetable in a sauce made of fat combined with the liquor in which the vegetable is cooked, salt, and perhaps a little pepper, is by far the simplest and by many considered the most palatable way in which to serve them, and most certainly is the method by which we develop to the greatest extent the natural flavor of the vegetable. The fat used in this country would be butter or oleomargarine. In Italy and the Mediterranean countries olive oil is much used for this purpose and gives a most agreeable flavor to those who like it. Another very common way of serving vegetables is by the addition of cream sauce. This is very much overdone, and where the same cream sauce is served over one or more vegetables it tends to give them all the same flavor and hide the individual flavors of the vegetables themselves. This can be in part obviated by the use of liquor in which the vegetable is cooked in making the cream sauce.

An acid flavor improves certain vegetables, especially those which contain large amounts of cellulose. This may be obtained by the addition of small amounts of vinegar or lemon juice to the butter sauce referred to above. This forms the the so-called "maitre d'hotel" butter.

Escalloping is a method which can be used in the original preparation of vegetables or may be used as a means of reheating and preparing for service left-over vegetables. By escalloping we mean placing in a baking dish layers of the vegetable, alternating with layers of cream sauce or some liquid. Over the top we place a layer of buttered bread crumbs, which serve the two purposes of keeping in the flavor and by their browning developing the flavor which we specially like. Sometimes we add to the cream sauce grated cheese and sprinkle over the top grated cheese with or without bread crumbs. These are known as the "au gratin" dishes. Some vegetables which contain a large amount of starch are after the original cooking put into the oven to brown the outside, for in this browning starch is dextrinized and a certain amount of flavor is developed. Another way of bringing about this same result is by reheating the vegetable in hot fat as in frying referred to above. In this case the vegetable is coated on the outside with some material such as egg, which prevents the absorption of fat. A few vegetables such as eggplant may be sauted after having been dipped in batter.

Summarizing, we can state very briefly the principles which should be observed in cooking vegetables whatever the method may be: (1) All vegetables which contain large amounts of starch and cellulose must be cooked by means of the action of moist heat. (2) In order to retain the food value of the vegetable the liquid in which it is cooked should be as limited as possible and should, whenever possible, be retained and used in some way as food. (3) In retaining the natural flavor of the vegetable we must both keep the liquid which contains the soluble portion of the vegetable and also must cook them in such a manner as to retain as much as possible of the volatile flavor.

THE HOME IN HISTORY.

(Mrs. Walter Warren, Sedalia.)

From the beginning of time inventive ideas have held the kingship of the world. From man's mind, as the ages sped, have been organized homes, society, government, laws, literature, arts and commerce.

The first home was a very simple and humble structure. When not a cave it was a shelter made of bark or skins sufficient to afford protection to the mother and the child. Subsequently it was a lodge made of earth, of stone wattle work or adobe. The first needs in this home were food, shelter and clothing. Food products were first used in the raw state, but woman's inventive genius made a most important and far-reaching discovery, a method for artificially producing fire. The Greeks showed their appreciation of the value of this invention by asserting that it was stolen from heaven. Considering its many uses in heating and cooking, thereby adding to the comfort of man, we are not surprised that in certain parts of the world fire has always been considered sacred.

No discovery after that of producing fire contributed more towards the development of mankind than the taming of the milk and fleece-bearing animals. The domestication of these diminished man's labor as a burden bearer and made of him a herdsman.

The monotony of the long-continued meat diet made the herdsman's wife hungry for starchy foods; she began to save seed from certain plants and gradually evolved a garden. Generation after generation of her descendants picked over the grain patches, selecting the seeds to be preserved from the harvest festivals to the next spring's planting time. These daughters

"A partnership with God is motherhood;
What strength, what purity, what self-control;
What love, what wisdom, shall belong to her
Who helps God fashion an immortal soul."

of the herdsman became the wives of farmers and in turn made farmers of their sons by placing in their hands the seeds of wheat and other cereals which gave to the family bread and nutritious foods.

After building a home and establishing a fireplace for the preparation of foods woman's next concern was for more raiment than that afforded by the traditional fig leaf. This she found in the bark of certain trees, in the fiber of hemp and cotton, and in the wool of sheep and goats. With her distaff she spun the thread thus obtained and was enabled by means of her loom to provide textile fabrics for herself and family. With a rude knife she skinned and carved the game brought by her male companion, scraped the interior of the hide and cut it up into clothing, sandals, and mocassins. There was much to invent before this home could be considered even fairly equipped. Furniture and culinary utensils were required, and a very important part was played in domestic economy by the soapstone pot and native basketry.

When we contemplate the splendid porcelain wares of today, the numberless varieties of cutlery, the beautiful textile fabrics, the delicate silks, the countless forms of footwear, the astonishing output of food products, we little think that the wheels of these vast and varied industries were set in motion by the needs and inventive ideas of a woman in a primitive home. The rude knife of flint has become the keen tool of tempered steel; the distaff has issued into the intricate Jacquard loom; the metate and pestle manipulated by a woman's hands have by a long process of evolution developed into our mammoth roller mills, impelled by water power, steam or electricity. These wonderful changes are due to inventions and specialization of work which became possible only when men liberated from the avocations of hunting and warfare were able to take up other occupations and develop them in the manner with which we are now familiar. Primitive woman having a home, was cook, butcher, baker, potter, weaver, miller, tanner and furrier.

Man, in assuming the occupations which were originally feminine and performed by one person, has subdivided and specialized by practical inventions and improved forms of machinery. So the work that is now done in a modern home is accomplished more rapidly and to better purpose and with correspondingly greater results in the development of industry and in the progress of civilization. This is an age of efficiency and specialization. We would not expect a farmer to be a success if he dabbled in law, in plumbing or salesmanship. Big men of today are all specialists, be they farmer, lawyer, doctor, minister or merchant.

But what are the mother's professions? She is the home-maker, care-taker, teacher, nurse, peace officer, minister and lawyer. The mistress of the rural home, in addition to filling these various occupations, not only supplies her own table with all its fresh vegetables, milk, butter, eggs and poultry, but produces a surplus equal to the needs of a great city. Besides the care of her home and family she carries on a branch industry greater than the cattle business of the nation—for the poultry business is owned, managed and controlled almost exclusively by her. We never sit down to a meal but that the work of a farm woman is somewhere in evidence. But the physical and commercial products are her least contribution to mankind.

Three-fifths of the women of Missouri live in rural homes. Ninety per cent of the leading business of the cities come from these homes, as do eighty-eight per cent of the ministers and a like per cent of the leading educators and government officials. The farmer has been much concerned about the exodus of his boys to town. But a greater concern, the exodus of his girls, is facing him. Compared with the comfort of present-day households, the fabled palaces of ancient kings were mere hovels. While much has been done in improving the conditions under which farm women work, it remains for progressive farm men and farm women to better conditions by providing mechanical and labor-saving devices in farm homes.

These practical inventions are the aids which are necessary to place the country woman's work more nearly on par with that of the city woman's. The introduction of a modern heating apparatus and some kind of a sanitary water system will do much to make the farm home more pleasant and healthful. The cream separator, the dumb-waiter, the roller table, the stove with glass doors, bread and cake mixers, the fireless cooker and its logical companion, the iceless refrigerator, will each lessen the steps and lighten the work of the housewife.

Study of improved conditions on the farm have developed plans for the ultimate elimination of wash day. In districts having a community creamery the creamery is idle every other day. It has been demonstrated that machinery for a laundry can be installed and operated during the idle time so that the washing can be done at the creamery at but a slight expense to each farm.

Labor has become such an important problem on the farm that the gasoline engine has become the new hired man that will perform such tasks as would require the service of both men and teams. This engine will drive the machine to fill the silo, grind the feed, saw the wood and thresh the grain. This chore boy is equally accommodating to the farm woman, for it will run the washing machine, the wringer, the cream separator, the pump, the sewing machine or vacuum cleaner.

While the engine is doing all these chores it drives the dynamo which generates electricity and stores it in a battery making a complete farm electric lighting plant, from which the power can be used whenever and wherever desired. The housewife finds her life brightened and duties lightened by electric lights and small motors. New uses for the power are found every day. Sometimes the dairy cows are milked and the cream separated from the milk by electricity; the dairy is ventilated, lighted, heated or cooled, all by electric power. Poultry farmers are finding that this power can be used to furnish heat for the incubator and the brooder.

Electricity on the farm is a subject commanding much attention. Manufacturers are studying the farmer's wants, and are making machinery to supply those wants. The National Government is investigating, the State colleges and experiment stations are helping the movement with information and advice. The possibilities are beyond count. The successful advent of the electric automobiles suggests the possible use of electric power in plowing, seeding, cultivating and harvesting. Electric farm trucks are made in America, and the general utilization of electric power in agriculture depends upon a better understanding between the producer and the consumer as to the field of probable use. The consumer does not realize how much time, money and patience can be saved by the application of the new agent. Electricity is no longer a luxury, but is rapidly becoming a necessity to the farmer and the farmer's wife. The yearbook of the Department of Agriculture calls attention to an awakening of the farmer, to the necessity of a machine-made farm. In certain parts of the country such an awakening seems to be already well advanced, and the steam engine, electric motor, gasoline engine, and particularly the oil-burning engines, are doing the work of opening up innumerable acres for cultivation. Not since Watt's time has such a vast improvement in engines been made. The oil-burning engine consumes crude oil costing only a few cents a gallon, or any liquid fuel, and, like all great inventions, it is astonishingly simple. And it seems reasonable to predict that this simple and inexpensive engine will work as great a revolution in American agriculture as was worked by the automatic harvester. With horses, every plow needs a man, but with an oil engine two men can operate eighteen plows and hold control in their hands the power of eighty horses that never tire. Agriculture now as in the past is still the most important occupation, for it is here that the food that feeds and the raiment that clothes the world finds its first production. And any invention that lightens the load of the man who toils and enables him to reap a greater profit from his labors is of great benefit to humanity. But any movement for the lightening of the farmer's work must, if it meets with success, receive the support, not only of the farmer, but also of the farmer's wife.

The county farm bureau should include the women of the farm and their household problems in its scope. If these progressive movements are to go forward the home must not be neglected. For on the home foundation is built all that is good in state or individual. Many farmers' wives do more reading than their husbands, and are more susceptible to suggestions, and are anxious and alert to make progress in their life work.

The first problem of the farmer is how to increase farm products through labor-saving devices and better farming. The first problem of the farmer's wife is how to improve the condition of her home. The mistake of the husband in his sphere during one season may, with the aid of the farm adviser, be corrected in the next. The mistakes made by the wife in the home and in rearing her children are never entirely corrected. The woman is in greater need of expert advice than the man, and we should have a special county bureau for women, with a woman well trained in home economics at the head of it. Her expert advice would enable the wives and mothers to solve many home problems and make the home life more efficient. The future of most families depends upon the mother. She is the one who does much to make for the happiness and the health of her family, and it is her attitude toward the farm and her success in making a happy farm home that largely determines whether the boy or girl remains on the farm.

If the mother feels that the farm offers no future for the boy or girl the chances are that the farm will lose them. You may remember the little waif, Glory McGuire, as she looked through the window at rich children's parties she would lament, Oh, the good times going on in the world and me not in them! Farm women want some of the good times. Is it fair for the cities to absorb all the talent or culture generated in the country and never send any of it back from whence it came? Seldom does a high official of church, school or state visit the rural districts except to draw more votes, more dollars or more children from the homes of the farmers.

With good roads eliminating space, and with the telephone, country women want and can have social centers and neighborhood gatherings. They need domestic science, the neighborhood nurse, the traveling library and the up-to-date consolidated district school and playground. All farm women have in a large degree the same experience, and therefore they can and should help each other. They should meet to discuss the problems of mutual interests, they should organize home-makers' clubs with the object of securing the best of conditions in the schools, and in their home life, of broadening the outlook of the home, of encouraging the social spirit and of elevating the character of farm life.

The rural teacher and the rural preacher should be very active in this social and educational work. Country schools should have teachers trained for work in rural schools, teachers of sound judgment, understanding the nature of the child, and tact in dealing with him. A live, trained progressive teacher can be a great force in a community in advancing progressive movements. Modern education is a mighty movement in modern life. Young men and young women were never so alive to the needs of education, technical training, vocational guidance and creative power as now. This new position means that the farm woman must take advantage of labor-saving devices in the home, that she may have the time and strength to fit herself for the new relations and the new responsibilities. She has been too busy at home to be much in the limelight, but she has been thinking, and through the school, the church, the home makers' club, the University short course, she will make herself felt in raising better children, building better homes and a better commonwealth. When the Romans got into trouble and had to have a dictator they sought the old farmer Cincinnattus. The farm woman, wife and mother, rearing her family in the quiet homestead, has the chance to cultivate the sanity that will be the saving salt in many of our complicated situations.

CHILD WELFARE DEPARTMENT.

(Mrs. C. W. Greene, Columbia, Mo.)

Donald Meyer.

In this department this year we selected only three lines of interest because our time was very limited. One session, in charge of Mrs. J. C. Jones, was given to art and music in the home. This was illustrated by lantern slides and by the player piano. Another meeting, with Mrs. W. W. Charters as leader, was devoted to papers and discussions of moral and ethical training in the home. These papers are all given in connection with this report. The third meeting was one on "Games and Amusements for Children," and with it was held a baby health contest. The children from the elementary school of the State University and the Benton school of Columbia gave an exhibition of games such as tenpins, bean bags, three deep, ringtoss and basket ball. Some of the Mother Goose rhymes were dramatized and a number of folk dances and marches were given. Two hundred and fifty children were on the floor.

The baby health contest was instituted that the babies of our State might receive more attention. It was conducted without prizes of any kind, and the babies were protected from publicity in every way. The score card used was furnished by the physiology department of the State University and is an attempt at measuring the child's physical and mental development.

The anthropometric measurements were made by persons of experience and skill. The medical examination was given by the dean of our State Medical School, who is a specialist in eye, ear, nose and throat diseases.

The following score card was used:

THE MISSOURI HOME MAKERS' CONFERENCE.

OFFICIAL SCORE CARD FOR THE BABIES' HEALTH CONTEST.

Name..........
Age, years.......... Months.......... Days..........
Boy, girl.
Date of entry..........
Local address..........

GENERAL INFORMATION.

Name of father..........
Nationality.......... Age..........
Name of mother..........
Nationality.......... Age..........
Parents early life spent in city or country..........
Was this child vigorous and strong at birth?..........
Child breast-fed.......... Time..........
Bottle-fed.......... Time..........
Kind of artificial food given regularly..........
....
Has the child had his food, exercise, baths, etc., by a regular or by an irregular schedule?
....
Has the child slept in the open air or in bedrooms with open windows?..........
....
What diseases has he had?..........

	Official record, head and neck.	Measurements.	Individual score.	Standard score.
1.	Circumference of head			6
2.	Length..........width			4
3.	Eyes—size, shape, setting			6
4.	Ears—size, shape, position			4
5.	Nose—size and patency			4
6.	Mouth, tongue, palate, tonsils			6
7.	Teeth			5
8.	Neck and larynx			3
	Trunk and limbs.			
9.	Weight			6
10.	Height			6
11.	Chest			6
12.	Waist (at navel)			2
13.	Symmetry of body			2
14.	Forearm and hand			3
15.	Calf and foot			3
16.	Muscular poise in walking, sitting and power of handgrip			6
17.	Skin—quality, coloring, etc			5
18.	Skeletal symmetry and proportions			3
	Mentality and alertness			
19.	Disposition			2
20.	Expression and attention			8
21.	Nervous balance and co-ordination			10

STANDARD MEASUREMENTS FOR BOYS.

The facts are from Holt's "The Care and Feeding of Infants." "The weight of girls is on the average about one pound less than boys. They are about the same height."—Holt.

At Birth.—Weight, 7½ pounds; height, 20½ inches; chest, 13½ inches; head, 14 inches; teeth none.

At One Year.—Weight, 21 pounds; height, 29 inches; chest, 18 inches; head, 18 inches teeth, six.

At Two Years.—Weight, 26½ pounds; height, 32 inches; chest, 19 inches; head, 19 inches; teeth, sixteen.

At Three Years.—Weight, 31 pounds; height, 35 inches; chest, 20 inches; head, 19¼ inches; teeth, twenty.

MEASUREMENTS OF BABY CONTEST WINNERS.

Denver Champion.—Age, 34 months; weight, 34 pounds; height, 36½ inches; head, 20⅛ inches; chest, 22⅛ inches; waist, 21¾ inches; forearm, 6⅞ inches; calf, 8⅞ inches.

Denver Second.—Age, 24 months; weight, 30¼ pounds; height, 34¾ inches; head, 20 inches; chest, 20¼ inches; waist, 21 inches; forearm, 6½ inches; calf, 8½ inches.

Chicago Champion.—Age, 40 months; weight, 34 pounds; height, 36½ inches; head, 20½ inches; chest, 22½ inches; waist, 23¼ inches; forearm, 7½ inches; calf, 9 inches.

RULES FOR THE PRESERVATION OF THE HEALTH AND LIFE OF THE BABY.

1. Follow a fixed and regular daily schedule for the babies' feeding, exercise and play, rest and sleep, and body functions.
2. The clothing must protect the neck, arms and legs; it should be loose and comfortable; the underclothing of light soft woolens.
3. Mother's milk should be the food of the baby. When bottle-fed, use pure, sweet cow's milk modified under the physician's directions.
4. Games, romps and other baby exercise favor growth and give discipline in self-control.
5. Do not allow a typhoid fly to touch the baby's sleeping lips, his food or his play-things. Flies carry germs of diarrhea, typhoid fever, tuberculosis and other death-dealing diseases.
6. "Baby pacifiers" are instruments of death to the baby.
7. Never use "soothing syrups," which generally contain poisonous sedatives and habit-forming drugs.
8. A child trained to regular habits and in good health never cries except when hungry, tired or uncomfortable.

The score cards when completely filled out were mailed to the parents of the babies. The front of the card contains the eugenical history of the child and a set of rules for preservation of the health of the baby.

This whole movement has been characterized by the absence of any comparison of children, of any commercialism, or any of the spectacular or sensational element. It has been an effort to enable parents to bring their children and have their bodily development scored, that they might learn wherein they lack perfection. No attempt was made to give medical advice, though an attempt was made to give intelligent answers to questions. Where a doctor's care was indicated the attention of the parents was called to this fact.

Sixty babies were entered, and they included all strata of society, from the common laborer's baby whose roughened skin and broken toe nails showed contact with a strenuous world, up through the typical farmer's baby, minister's, banker's and University professor's babies. These children were all under forty months, but we found defects ranging from asymmetrical heads and broken noses to adenoids and cleft palates. In almost every case the parents were unconscious of these defects. We were impressed all the time with the lack of standards as to what constitutes a normal, healthy baby.

Camilla Collins.

Vivian Long.

These babies averaged higher than Holt's standards and a little lower than the Colorado babies as reported in the newspapers.

The babies were entered in three classes: In the first class, which included babies between the ages of 6 months and 18 months, Donald Meyer of Columbia was given first place. In the second class, 18 months to 30 months, Vivian Long of Warrensburg was winner. And in the third class, 30 months to 42 months, Camilla Collins of St. Louis was declared most nearly perfect. Camilla Collins was also found to make the highest score of any child entered.

It is hoped that the home makers in each county will make plans to have local baby health contests, with the thought always in mind that it is the physical development and not beauty of the child that is under consideration.

THE INFLUENCE OF GOOD MUSIC AND ART IN THE HOME.

(Mrs. J. C. Jones, Columbia, Mo.)

We women are beginning to take ourselves so seriously, and amid the din caused by the woman question it is so hard to determine whether we really are butterflies or the saviors of the Republic, and between deciding on the tango and the ballot we are in a frenzy of indecision. One epithet which was heard less frequently in former years is the mother of future generations, and appalling as this sounds, we cannot overestimate the underlying meaning or minimize the responsibility which belongs to the phrase.

Agnes Repplier has said if parents do not know by this time how to bring up their children it is not for lack of instruction, and we are prone to agree with her when we contemplate the amount of literature upon this subject, the variety of theories advanced in regard to it, and the attention paid to the child problems, both before and after birth. The little girl who said she wished she had been born in the time of Charles II because her history said that during his reign education was much neglected has our heartfelt sympathy.

We are not concerned today with the complexity of the general educational problems. Happily, we are not to decide whether our child material, which is the proper name now for any little boy and girl, has to sit on a hard bench many hours of the day and really learn his alphabet and how to spell with it and his multiplication table and how to multiply with it, or whether by suggestion and symbolic play he shall learn the necessary requirements of the three r's, which, by the way, seem now to be of far less importance than we once believed. Let those of us who had little boys and girls and not child material wonder and be thankful that we brought them safely to maturity and so far have kept them out of the penitentiary. Seriously speaking, we should not minimize the importance of all of these questions, but the largest influence, after all, which comes into the life of the child is that which emanates from the home, the most unconscious but the most subtle and lasting, and to bring into the home the music and art which shall set a standard for all time should be the effort of the mother. There was a time before the invention of what some of our friends insist upon calling "canned music" when it was difficult to familiarize the child or even the adult with the best kind of music. The girl who had taken valuable hours from study and recreation in God's out-of-doors to practice, as soon as she had a home of her own found no time to keep up her music, and after six months or a year the piano was abandoned for household tasks and the home was musicless. This need not be the condition now, for we have the piano player and victrola in every home where music is really desired. It is hard to estimate the *possible* educational advantage (notice I speak of it as a possibility for musical education), but I must emphasize the fact that in homes without number this is only a possibility and not a reality. It is possible to go to a bountifully spread table and partake of the wholesome and palatable food, but quite as simple is it to eat only the pickles and sweets with the attendant lack of benefit and satisfaction. Hence, when these instruments are introduced in the home and the mother lacks the standard and ambition for the best music, the damage is great. No art has a more insinuating influence, and the child who hears first from the mother a lullaby of musical worth and value is likely to have an ear trained in time for the best, and if this child is given songs suitable to its age and development, simple, worthy and beautiful, there will be in the inmost self of that child something developed which will be of the greatest value in later years.

I have been often interested to hear people of intelligence and pronounced education say, "I can enjoy music which has a tune and I really am very musical, but I do not care to know about Wagner and Beethoven. I do not believe anybody really enjoys such music." And I always find that such an one has not gone about the task of educating himself along this line as he has in literature and other branches of culture. Just as well never learn your alphabet and expect some fine day to enjoy yourself with a volume of Browning or Shakespeare as to neglect all your musical education and then expect to get your five dollars worth out of a Wagner opera. To my mind the best music is none too good for the child, and my experience has been that taught wisely he will learn to love good music. Beginning very young one can give nursery rhymes set to music by J. W. Elliott, a writer of taste and distinction. These melodies are musical and catchy and melodious. I used for years the kindergarten book gotten up by Jessie Gaynor, our Missouri composer, of whom we are proud. Nor did I fear to familiarize children, both my own and the neighbors' children, with such masterpieces as Schubert's Erl Köenig, telling them the story and preparing some of them for a delightful experience when, in a foreign gallery, I led them to the masterpieces of Schnorr and Schwindt, portraying this mystic creature, and later in another German city they heard the inimitable Lilli Lehman render Schubert's famous song.

When it has been my pleasure to travel abroad with young people I have been interested to note that they enjoy and profit by what they see and hear just in proportion to their preparation for it. The originals which they most desire to see are those with which they have been familiar through copies. The music they most enjoy is that they have some knowledge of. Many a symphony concert would have been a bore rather than a pleasure to my children had not my Cicilian piano already familiarized them with the masterpieces of Schumann and Schubert and other great composers.

THE MORAL TRAINING OF CHILDREN.

(Mrs. Jessie Allen Charters, Columbia.)

The fundamental factor in all training is the imitative instinct. Children learn by doing, and they do what they see and hear others do. Later in life they may reconstruct their experiences by deliberating upon what they see and hear, and thus their acts are not all directly imitative. But small children are only copies, imperfect and modified, of the people around them.

For this reason it is important that children be surrounded by people of the highest ideals and who are doing good things. A child cannot rightly be punished for something copied from its mother or father—when the parents are the highest model he knows. A mother who is not careful to tell exact truth to her children and before them is the one to be blamed when the children fail to tell the truth.

There was once a woman (perhaps more than one) who did not want her Sundays disturbed by company at Sunday dinner. Every Saturday she told all her children that she would not let any one, not even those tiresome, meddling stick-tights, the Smiths, bewitch her into giving them an invitation to Sunday dinner. But after church on Sunday, being worked upon by habit and a sense of the duty expected of her, she did give the tiresome, meddling Smiths and others cordial invitations to dinner, and during the long Sunday this dutiful and God-fearing mother pretended a pleasure in hospitality and urged her friends to come again and often. No sooner would the door be securely closed upon their departing backs than the irritation from a disagreeable day would burst forth, and the children were even scolded and punished for their accumulated misdeeds.

If there is ever to be an ideal of truthfulness in this world parents will have to set better examples at home than the average parents now offer. And the same is true of all the other virtues.

Honesty must be taught by example first, foremost and all the time. The parent who will accept an incorrect bill when the mistake is in his favor sets a wrong standard of honor before his children. The mother who rejoices that the street car conductor missed her in collecting fares is training her children to wink at petty graft and to lower their ideals in all moral situations. The parents who slip their children into theatres, street cars, employments and other places of the sort with lies, told or implied, about the children's ages, are demoralizing these children's standards of right and responsibility.

Intemperance is a vice usually started in the home. Rarely does a child of total abstainers become a drunkard. Parents who drink a little, who have liquor in the house, who go into the saloons, and who allow the children a small amount of intoxicants, are paving the way for these same children to become drunkards and worse. On the other hand, an example of high-minded sobriety at home will save a boy through life's severest temptations.

We have so far emphasized only one phase of moral training —but that is perhaps the most important phase of all. Children imitate their parents; they form their habits according to the examples before them, whether for good or evil. Children try to be like the best people they know—their parents. How very important it is, then, that the parents be good and true and pure, virtuous in all their thoughts and acts, gentle with the children who are patterned after their image, and lenient with the faults derived from the parents by trustful imitation. Every parent may set a good example to the children, thus helping to form their characters beautifully and nobly. Good parents are not limited to the city or the farm, to the white race or the colored, to the past or the present. Every parent may set a good example to the children in the home.

But parents have every day and every hour many practical problems of moral training, and I would feel that my opportunity were lost if I did not take up with you today some of our serious questions.

There is, for instance, the question of obedience. It was not very long ago when obedience was a big word in family life, thus—*obedience*. In Japan children are compelled to obey their parents absolutely and without questioning. Many people have that *ideal* for home life today—wishing it were possible to go back to those old-fashioned times when children were expected to give perfect obedience. Most parents spend a large amount of time in getting obedience from their children.

There are two questions to ask ourselves: First, is perfect obedience desirable? And second, how shall we train our children to obey?

First, is perfect obedience desirable? In some children perfect obedience would mean a giving up of personality to the despotism of some stronger will, and this submission could not possibly be yielded except under fear. Children who think for themselves and act for themselves are too busy to obey. If the parents are wise, restrictions will not be put around such children except when unavoidable, so that these children will at least not have many chances to disobey.

I know of one such child—a four-year-old girl. If there are many things she must not do she cannot help being disobedient. When her mother sews on the machine she *will* put her hands on wheels and work, and climb over the machine. She can no more help it than a moth can help flying at a candle flame. The little girl I know climbs over chairs, jumps off steps, chews her fingers, and is in many ways a fidgety, disturbing element. But she is a sweet, loving, well-meaning child. Her nervous habits are no more under her control than is her heartbeat or her digestion.

Accompanying this nervousness is a distaste for continuous work. It is nearly impossible to get her to put away her toys unless interest is kept up by some kind of game. If she spills a box of buttons it becomes the task of an afternoon to compel her to pick them up as a punishment for carelessness.

Training such a child as this is a delicate and complicated matter, for in this case the connection between the physical nature and the mental and moral nature is easily seen, and therefore the parent becomes more gentle in dealing with moral defects. What might seem to be a moral defect is often only a nervous disorder. The training being given to this child is largely physical. Nervousness can be partly controlled after the body has been well built up. But it is a matter of years' work.

Other children are naturally obedient—that is, they easily do what they are told to do. They do not keep particularly busy about their own play, nor too busy to pay attention to other things.

One must not make a little tin god of obedience. While obedient children are convenient and may save serious difficulties, implicit obedience is a bad sign of sturdy character, and parents who demand utter, unreasoned obedience are killing their children's character and later chance for independent action.

There are several ways of training in obedience. One is the immediate, severe punishment of every form of disobedience. It is a common belief that if every tendency toward disobedience is punished the child will of course be obedient. But obedience must be of the heart. Children who are thwarted will become deceitful if they have any grit and personality at all. They *must* have their own way some of the time; and the parent, in getting the appearance of obedience, is losing many things even more valuable than obedience.

There is also the theory of reasoning with children. Obedience is secured by giving reasons for it. But parents soon learn to their sorrow that children are irrational little brutes. They love to argue and question and procrastinate, but they are not at all interested in the real reasons for and against their desires. They are interested in gaining some end by fair means or foul. And the parents who are careful to explain and to reason find out how often they are baffled, and the child comes off victorious even when the parents are wholly in the right.

There is one other method of training in obedience, namely, the method of giving very few commands, and practically none which are as unalterable as the laws of the Medes and Persians. Of course, it is impossible and undesirable for any child to be brought up without daily and hourly commands of "do this" and "don't do that." But these commands and requests may usually be of passing interest only and may not be allowed to become "test situations."

I know a little boy whose father said to him, "Johnnie, put away your book now, it is bedtime." The childish act is often inexplicable—and Johnnie threw his book to the floor in perfect good humor, saying "I won't put away my book." He was not a bad boy, he was on the whole of the docile type. So his father paid little attention, saying, however, "Yes, put it away now." But John wouldn't. He sat. He grew stubborn. He was willing to go to bed or do anything else—but he wouldn't pick up the book. He did not cry—he did not laugh. Being only four years old, and docile, the situation was unheard of. The other children went to bed. The mother reasoned, plead, loved him, promised rewards. The father joked, commanded, threatened finally; Johnnie did not and would not pick up the book.

After two hours he was put to bed and the book left where it was. Less wise parents would have left the book on the floor and in the morning the battle would have been resumed. But these parents gave up. They realized that their docile son had a will of his own which they must respect.

These sudden, intense, disciplinary situations appear to be more frequent when children are tired or ill. Rarely, indeed, have my children had serious difficulties before five o'clock at night. But several serious battles were fought about bedtime before I realized that it must be only the children's fatigue and my own which was responsible. Since then I've been able to let morals go after six o'clock, and we've all been better and happier for it.

And so far I have never punished the children when they are sick, but have begun already to explain matters to them. I say, "Mother knows you don't feel very well, and the germs in you make you want to be cross and to stamp your foot and to say "I won't." So I'm not going to pay any attention to the germs, but help you to get well." So all attention is directed to getting fresh air, sunshine and happiness, and the next thing that happens is a combination of good health and good temper.

All that I have tried to do today is to give a few hints about moral training. It would take many hours to talk over even half our daily problems. I should like very much to know from you what you think and do and what your most serious problems are. And from you, friends in the State, who may read this paper but who are not at this conference, I wish that I might hear. I should like to know how other mothers train their children to be good and true and loving children.

COURTESY IN THE HOME.

(Mrs. W. F. Flournoy, Marionville, Mo.)

Courtesy is, etymologically speaking, the politeness of courts. It displays itself in the address and manners. The courteous individual is one who is polite, civil, obliging and affable. A person possessed of those qualities is truly agreeable, while without them he may have great talent, good conduct, virtue, and still be disagreeable. Some one has very truthfully said that "as charity covers a multitude of sins before God so does politeness before men." I do not see that the courtesy or politeness or good manners used in the home is any different from that used elsewhere, yet my subject, "Courtesy in the Home," might make one think there is a difference. Politeness is a result or perhaps combination of good sense and good nature and becomes a habit. And the individual who is habitually polite away from home must necessarily have some in reserve for home use. In order that the habit of politeness may become a fixed habit it is very necessary that children be taught to be polite and well-mannered from infancy. It is just as necessary a part of their education as are the "three R's." Sometimes I think teaching them the "three R's" is the easier task.

Some of you who have no children can, perhaps, tell us just the most approved methods for teaching children to be courteous. I certainly hesitate to do so. However, little children are great imitators, so perhaps example is one of the best ways. Precept, of course, is always the easy method, but maybe not so effectual. If a child is taught to have the proper respect for the rights, property and opinions of others, that child has acquired the first step in the education of being courteous. Children, like grown-up people, acquire ease and gracefulness of manner by coming in contact with others. The friendly collision rubs off the corners and polishes the rough places, until the child forgets to be rude and smiles and looks pleasant when things go wrong. I think in the home which entertains a good deal the children acquire a desirable deference to others. In fact, the entertaining in the home might be a part of the courtesies of that home. One of the viewpoints that is not always put before children is that they can look at it from a selfish standpoint. Other people will have a much better opinion of the child who is polite, and the child himself will think so much better of himself. Usually courteous children are fairly good children.

POULTRY SECTION.

(Mrs. R. Lee Alford, Vandalia, chairman.)

The poultry section of the Home Makers' Conference is a new venture, this being the first year, and great interest was manifested at the meeting. We were especially favored by having with us: T. E. Quisenberry, director of the Missouri Poultry Experiment Station, Mountain Grove, Mo.; Judge E. C. Branch, member of the revision committee of the American Poultry Association, and H. L. Kempster, professor of poultry husbandry, University of Missouri, each of whom gave able lectures advocating better methods and greater attention devoted to farm poultry. Interesting papers were also given by Mrs. James A Staples of Lamonte, Mrs. Scott Cunningham of Palmyra, Mrs. E. M. Scott of Lathrop and Miss Martha Blume of New Franklin, and others.

Mrs. R. Lee Alford.

The poultry section will undertake an egg laying contest in the homes of the farm women of the State under the direction of the chairman, Mrs. R. Lee Alford of Vandalia. Professor Kempster in his lecture comprehensively outlined the method by which such a contest might be conducted.

Missouri now ranks as poultry queen of the Union, but we must work hard to keep our reputation.

HOW TO MAKE POULTRY PROFITABLE ON THE FARM.

(T. E. Quisenberry, director of the Missouri State Poultry Experiment Station, Mountain Grove, Mo.)

T. E. Quisenberry.

I am certainly delighted to have the opportunity to speak to the good women of Missouri who are interested in poultry on the farm, for it is to the farmer's wife that Missouri is indebted for the greater portion of the $50,000,000 worth of poultry and eggs that are marketed in this State each year. The care of the poultry on the farm is left largely to the farmer's wife, his son and daughter, and the farmer who doesn't give reasonable attention to his poultry is neglecting a very important source of revenue. A flock of 100 to 200 hens, if properly bred, housed and fed, will pay the dry goods, clothing, shoe and grocery bills for the average family on the farm.

The products of the Missouri hen have outstripped the revenue derived from the Missouri mule. The poultry products of Missouri are twice those of our annual wheat crop and half as much as our annual corn crop. The Missouri hen produces $10,000,000 more wealth annually in this State than do all the beef cattle of Missouri. Then, will it not pay you to devote a few minutes time each day in properly caring for your poultry?

In a few words, the four essential things in successful poultry raising can be summed up as follows:

1. Good stock—high vitality and pure bred.
2. Good houses—inexpensive but comfortable and convenient.
3. Good feed—clean and wholesome and some variety.
4. Good care—clean ground and sanitary quarters, diligence, and common sense.

1. Without stock of strong, vigorous constitutions you will be troubled with more or less diseases in both young and old stock. A hen cannot lay many eggs without a good constitution. The destiny of your young chicks is largely determined before the eggs are laid. Don't breed from stock

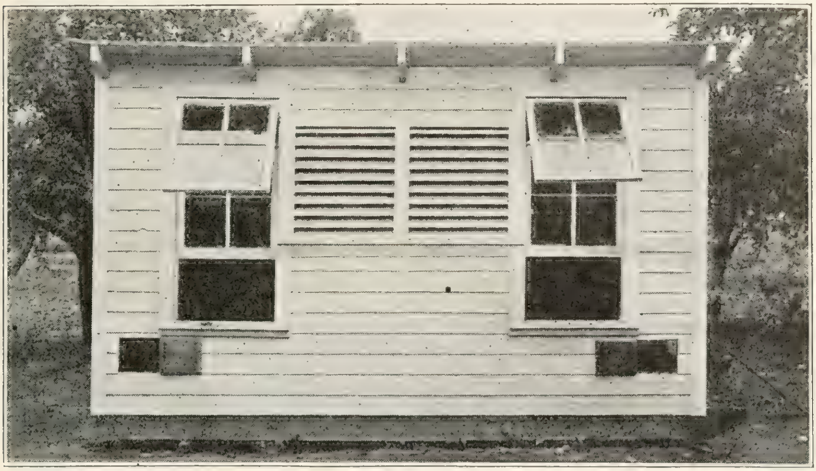
A chicken well bred and well hatched is half raised.

too young or too old. Use pure-bred poultry because it looks better, you take more pride in it and give it better care, they lay more eggs as a rule, eggs are larger and more uniform, and it fattens better for market purposes.

2. A farmer makes a mistake if he puts a great deal of money into a poultry house. A house should be inexpensive yet properly ventilated and free from drafts. Above all things, it should be convenient and comfortable. Do not build your house too shallow or narrow, but make it deep; then provide an opening of some kind in the front, which occupies not less than ten or twelve square feet of space. We have found that a stationary shutter, much like the shutters in the old-fashioned barn cupola, placed in this opening with an inch or two between slats,through which the air can circulate, is the best method of ventilating

The vitality of the breeding stock influences the hatchability of the eggs and the "livability" of the chicks. Poor hatches and poor health among baby chicks is largely due to the condition of the parent stock.

your poultry house. These shutters admit fresh air and at the same time prevent the rain, sleet or snow from blowing into the house. If you can't do anything more, cut an opening for ventilation and cover it with a cloth curtain which can be raised and lowered. The farm poultry house should be built in sections 12, 14 or 16 feet square. We prefer a shed roof, and face the house to the south. Make nests, roosts and all inside fixtures loose so they can be removed from the house and everything thoroughly cleaned and disinfected.



A house built after this style, made 12, 14 or 16 feet square, with a good foundation under it, makes one of the best houses that can possibly be built by Missouri farmers, and is also very economically built.

3. The average farmer in Missouri grows on his own farm the very best foods for poultry. If the hens are provided with a lot or range to call their own or are moved to the orchard or cornfield, they will consume a great quantity of injurious insects, bugs, worms, etc. The hens will turn grass into greenbacks and convert grains into gold. The best poultry food is composed of what I term "5 G's:" grit, grains, greens, grubs, gumption; that is, hens must have some grit with which to grind their food, and also should have some cracked oyster shell. Corn and wheat are staple grains. We also provide ground food composed principally of equal parts of bran, shorts and corn meal, with three-fourths of a pound of fine salt mixed with every hundred pounds of ground food. Hens need a grass run, or else provide them with sprouted oats, alfalfa or clover hay, ensilage, or some green food. If you have sour milk or

buttermilk, this takes the place of meat scraps and is a splendid thing to give hens or chickens of any age. You should also mix in a little gumption in the feed bucket. Don't let the drinking pan go dry.

4. Good care means a little more gumption, a little common sense.

FIRST FEED FOR BABY CHICKS.

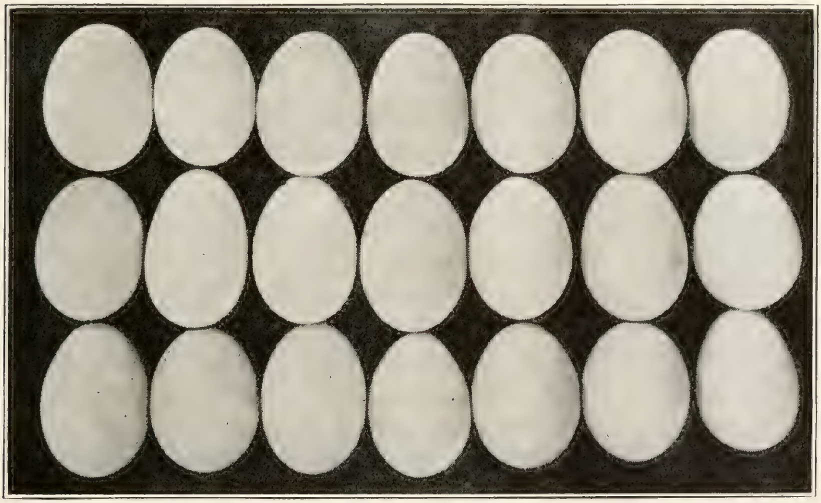
It might be well for us to mention a very good feed formula for baby chickens. We sprinkle a little clover chaff over the floor of the brooder or hover before the chicks are placed in it. We also sprinkle a little fine grit in the chaff and provide a small fountain of pure water. The chicks are not fed for forty-eight or more hours after they are hatched. Don't feed too soon. The first feed is usually a little commercial chick feed sprinkled in the litter or perhaps placed on a clear spot on the floor until the chicks learn to scratch for their feed. We feed the chick food at morning, noon and night. Between regular meals we feed a little rolled oats and bran. When the chicks are a week or ten days old we then place a dry mash before them composed of two parts bran, one part shorts, one part corn meal, one-half part ground oats.

Ready for their first feed.

It is also a good idea to mix a little fine charcoal and a little bone meal in this ground feed. We give our young chicks all the sour milk or buttermilk they want from the time they are hatched until fully matured. If you chop up a few onions occasionally for the youngsters, it is a splendid food for them. You may also feed the infertile incubated eggs to them after they are boiled and mixed with some of the dry mash.

LOSS FROM BAD EGGS.

Missouri farmers lose nearly three million dollars annually on bad eggs. It is just as easy to market good eggs as bad eggs. You can not only save this tremendous loss to yourself, but you can improve the quality of the product and thereby increase the price and also your profits by giving a little closer attention to the market end. You can also increase consumption by marketing a better article. Most of this three million dollar loss on eggs is caused by farmers marketing fertile eggs during the hot summer months. Keep the males from your flock of layers in summer months and you are marketing infertile eggs which as a rule will not decay. The hens will lay just as many eggs. The germ in the fertile egg develops on the road to market to such an extent that it is unfit for food. But an infertile egg remains wholesome for a much longer period of time, and simply dries up, as a rule, instead of decaying. The eastern buyers have learned that one out of nearly every five eggs from Missouri is a bad egg, and they make the price to Missouri farmers accordingly. Farmer friends, let's help save this $3,000,000 each year by keeping males out of our laying pens.



Good, clean, fresh eggs of uniform size and color always command a good price.

Mr. and Mrs. Farmer, give the hens a chance and they will help lift the mortgages from your farms and help swell your bank accounts.

POULTRY AND CHILDREN.

(Mrs. James A. Staples, Lamonte, Mo.)

Much has been said for and against the great American hen, but she has been doing some wonderful things in the way of producing wealth, generally without much encouraging treatment of any kind.

On the average farm the hen has literally scratched her way to prominence in financial earnings, alone and uncared for. A natural forager she has been left, on the majority of farms, to look out for her own living. There has been remarkable progress made in the past few years, showing that more attention is being paid to both the breeding and feeding of the hen.

But what we want to talk to you about today is poultry and children. Doesn't the combination sound good to you? I am sure it does to me. What is more fascinating than, when driving along a country road or passing a city lot, to see some happy, healthy children feeding a nice, healthy, pure-bred flock of poultry? There is something about it that makes you want to stop and speak to those children. Now on many farms a great deal of the care of the poultry falls to the children—such as putting out water, gathering eggs, running to see if the setting hens have gone back to their nests, etc.

What we want to bring to your mind is, are the children really partners in this business or are they used to fill in and help out?

We advocate making the children partners, giving them a share, so they may look forward to a reward. It makes the work much more pleasant both for the child, the mother or father, or whoever happens to be working with them. Now to illustrate this. Even we mothers, with as much pleasure as we get rearing and caring for our children, isn't there the hope in our hearts all the while of the fine men and women we expect to have when they are grown. On the other hand, could we work with our poultry with the glad hearts we have, hoping to have a fine bunch in the fall—if we knew we would get none of the money we make out of that poultry but what some one was willing to give us. Perhaps you will say, "Well, I buy Johnnie's shoes or suit or Mary a nice dress or I wanted to give her a book she wanted, or something of the kind." I have seen this tried and have had mothers tell me, "I need every cent I make out of my poultry. I can't give a part to the children to use as they want."

Did you ever stop to think that either paying your child for his work or giving him an interest in the business helps him to be fitted to battle life in other lines of business when he is older! Now few children if allowed to have spending money of their own, if properly taught and especially if they earn it themselves, will squander it. Wouldn't you rather give your boy or girl an interest in the work so they will have an income of their own, rather than go to the city, as so many do, meeting temptations on every hand?

It makes children very proud when they can say I bought these shoes or this dress with money I earned helping mamma or papa. We do not believe in paying children for everything they do, neither do we believe in paying large sums, but start them with small sums and see that they earn it—and be sure and pay them. To give you an illustration, to show the difference in boys earning their own money and just having it given to them, I saw two little boys (about eight years old) together a short time ago. Each had a quarter; one earned his, the other his parents had given him. His money was burning his fingers, he wanted to spend it so badly. I asked him what he wanted to buy. He said, "Oh, I don't know, just anything, candy or something. The other one said, "I am going to keep mine and save it and see if I can't get a dollar. I want to see how much money I can save this year."

But let us get back to the main subject, poultry and children. We believe it is best to start the child on a salary. A very small child can begin to do the little things. I have seen them take a half gallon bucket and make many trips to fill a trough for the chickens with water, and how they enjoyed it! They perhaps said, "Mamma is going to give me a dime if I keep water there every day for a week." How they would work to earn that dime. I have seen a little boy take his little wagon (in fact, our own little boy, eight years old) when papa and mamma were very busy, clean all the dropping boards in three hours, rake and sweep the boards, haul the droppings down in the field, all for 25 cents. He was so proud of his work and he came in and said to me, "Mamma, I tell you I am making that ground 'wich,' we sure will have lots of wheat there next year." He enjoyed the work; he was allowed his own time and only worked an hour at a time. We think he got a great deal more good out of that than running up and down the road in the dust with his wagon.

The children learn to love the poultry, and where the parents are interested in picking out the good points of the birds they readily learn. Our little boy when he was five years old called to me one day and said, "Oh, mamma, come here quick;" I ran out to see what in the world was the matter, and he said, "I wanted you to see this cockerel; isn't he a fine one." He had not previously noticed the bird and I had only a few days before discovered how good he was. Our little girl at ten years of age could select a prize-winning bird from our flock of Langshans nearly as well as we could. Last year, at 13 years of age, we offered her $10 to help keep books. She kept them herself and kept an accurate account of everything. It gave her the finest kind of a start in that line, and this year we will have to increase her pay. She has had a flock of her own, has shown her birds at some of the good shows, selecting her own birds to show and winning the blue ribbons. We are sure it pays to give our children a chance. They soon learn to select the best specimens. You know that children are only mimics, after all, and are just about what we make them.

We really believe the future of the great poultry industry depends upon our children, and we believe it will pay us and pay us well to make our children partners in our business just as soon as we possibly can. Subscribe for good literature so they can read up on the work. Give them an opportunity to go with you to places of interest so they will meet others and gain new ideas.

There is something fascinating about poultry work and children enjoy it. Something new it seems comes up every day. There must be regularity for the best results and children as well as grown-ups learn to be systematic in their work.

We believe it takes as much or more business ability to be a successful poultryman or woman as in any other lines. Accurate accounts must be kept, strict watch must be kept at all times for drones in the flock, and numerous other things. It teaches children to be observing, and no matter what line of work they may take up later in life they have had the very best training in business lines to meet it. There is more clear money made from an investment in poultry, everything considered, than any other line of live stock. So let's give our children a chance to make this, the greatest little industry, to be the greatest big industry.

SELECTING THE BREEDERS AND RAISING YOUNG TURKEYS.

(Mrs. E. M. Scott, Lathrop, Mo.)

In the selection of birds for my breeders I have found several things to be considered, and I believe foremost I would place strength. I mean by that good, healthy, well-matured stock. Avoid inbreeding, I believe all good turkey raisers will agree with me in this. Color comes principally from the male bird. I use a medium-sized male with a brilliant bronze color, clear white edging, with no real defect in markings—in fact, the very best colored bird I can get. One cannot afford to be careless in selecting the male bird. He constitutes one-half the entire flock. One, if forced to, can use a defective female. The eggs marked, poults can be marked, and that way tab kept on the offspring. Not so with the defective male bird.

In selecting the females I use birds with head long and broad, a long body yet full breast, a shank not short yet not too long, well-spread foot and long toes, a well-poised head and bright, alert eyes, well-barred wings, clear white penciling. The female is never so richly bronzed on fluff or lesser coverts. I like to see plenty. My ideal mating, according to my own experience, is an early young tom with one or two-year-old females. I have had fair success with yearling tom and early hatched pullets.

I do not yard my turkeys but give them range. During the nesting season they are tolled into an inclosure that I have built out in the orchard of woven wire fencing eight feet high. Inside is placed barrels, real brush piles and boxes, the front hidden by loosely piled brush. China eggs are placed in the thus improvised hiding places. The turkeys are kept in a while and turned out each morning until after nests are selected and three or four eggs laid. Then they are allowed to come and go at will. Some times Madam Turk takes the side of contrariness and has to be kept in all day for a few days, but seldom after having laid three or four eggs do they try to change nests. Use discretion in gathering eggs, leaving the nest much as you found it, always a nest egg. I seldom set the turkey hens. For one reason, I find that if they are not tired from long setting they are more attentive to their young; another, they are large and sure to break eggs if disturbed in the least.

I always raise the poults with a turkey mother. I set the eggs about April 15th under chicken hens, my Barred Plymouth Rock hens covering ten easily. I always put soil in the nest boxes several inches deep, placing on top chaff or loose straw. Have my hens rid of lice by use of some good powder. A few days before hatching I take all litter from the nest, putting in fresh. Dust the hen, throw her out to rid her of the powder. Meanwhile the turkey hen has been setting for a week or perhaps three or four days. I place a pipped egg under her at night and leave her alone until she comes off with the one turkey. Then she is dusted thoroughly, let loose to dust her feathers, placed in a run prepared for her and containing corn, grit, water and some clean sand. The poults are placed inside, not more than twenty-five, generally not more than twenty; the gap is closed and she is left to get acquainted with her family.

The runs I use are made of old rails (as the only available material at hand), but have been found so satisfactory that I have continued the use of them. Build a pen square, rail upon rail, until four feet high, making a slip gap in one side. Cover with boards weighted down in case of heavy wind. At the bottom of the pen I place a board eight or nine inches high to keep the little poults inside the first day or until they have learned the mother call. Always use the ground for floor unless very damp, then some dry straw or chaff is scattered. If weather is sunny and bright the little fellows lie in the sand, take a pick at the grass, a sip at the water, seemingly quite content. I feed first about noon (they are now forty-eight hours old) a little stale bread dipped in sweet milk, pressed dry, sprinkled lightly with black pepper, not too much, scattered around on the same. Feed about five times each day for two or three days. If weather is clear I open the gap on the third day about nine or ten o'clock and let Mother Turk come out with her brood, which she will do very leisurely. Always keep her well fed and don't allow her to range far. As they grow older commence to feed a little hard-boiled egg, a little onion top or lettuce leaves cut fine, but main feed, bread and milk, until after two weeks old, at no time feeding all they will eat. The hen is driven back to the run about five o'clock and kept in until after dew is off in the morning. The boards are thrown back from top of pen to allow sunshine each day, and every five or six days run is moved over on fresh ground. I dust each poult once a week for lice until six weeks old. After eight weeks they are allowed to roost out of runs unless stormy. They are well filled after their day's gleanings of bugs and worms. Keep plenty of cool, clean water for them to drink. Last summer I followed many a hot trail with a bucket of cool water for my pets, as the branch that usually affords plenty went dry.

I find the main trouble with raising turkeys is "we forget they are not chickens." The culture is very different. Turkeys habits are wild; give them freedom, and do not hamper. The work of raising turkeys will prove a profitable and pleasant pastime.

"Here's to the turkeys for weal or woe,
A farmer's good friend, to the insect a foe."

CHICKENDOM FROM THE FARMER WIFE'S VIEWPOINT.

(Mrs. Scott Cunningham, Palmyra, Mo.)

With the first signs of spring come the alluring poultry catalogues, filling the beginner with unbounded enthusiasm and visions of chickens galore. To read in the current magazine about the experience of the city fledgling who, from book learning, imagines that poultry culture is his special calling, and begins at the top of the ladder, is, to say the least, pathetic, for never did Shakespeare write such tragedy. If the ghosts of all the chicks that have been deliberately overfed, smothered and tortured by incubator, brooder (fireless and otherwise), through ignorance and stupidity, could haunt their respective owners, I fear that King Richard's dreams would pale into insignificance by comparison.

Well do I remember my own tragic beginning and not only realize each year that there is much to learn in raising poultry successfully for profit as well as pleasure, but that the farmer's wife, with her all-round duties, cannot give them her undivided attention, and must plan the easiest way to conserve her time as well as her strength.

When we moved to the farm from a distant town, some years ago, my thoughts naturally turned to poultry raising. Dreams of fried chicken and fresh eggs was the goal. My first investment was an incubator. Oh, the pathos of it! It proved to be very unreliable, the temperature playing hide and seek with the weather most of the time, and especially so at night. Suffice to say, after furnishing a great deal of entertainment for the family during the required length of time, sixty little

White Plymouth Rock chicks hopped out into my care. As far as I can remember, their first diet consisted chiefly of grit and water. The fittest survived, however, two pullets and a cockerel, and I certainly would not entertain the thought of frying them.

Since that experience much has been learned, as it is only by failure that we learn to succeed. While Dame Nature is just about perfect, some hens seem to have as much "stickability" as some people, especially when one tries to set them on high-priced eggs that the express companies have been tossing about, and so the housewife must try to find the happy medium. A reliable incubator will hatch a good percentage with less trouble, but brooding the chicks—"Aye! there's the rub!"

I have used brooders with lamps and so-called fireless brooders and find that by setting a number of old hens on the same date as the incubator have let mother hen share the burden of brooding the chicks. As many as forty can be given to one hen in a large coop or brooder with a window and a run or framework covered with small poultry wire on the top as well as the sides. This saves a great deal of worry and care. It keeps the older chickens out while keeping the mother hen in, and when the chicks are old enough it can be pushed just a little ajar from the coop during the day to allow the chicks to forage. What farmer's wife has not gone out after a quick shower and viewed the remains? And so I have found that by keeping the mother hen enclosed in the run, especially in doubtful weather, saves many chicks as well as time and sometimes a shower bath. It is natural for a chick to run to its mother when it rains, but a brooder chick will keep on running until it is thoroughly soaked. The book will tell you to tap gently on the brooder, and presto! they will all fall over themselves to get in, but alas! one could stand and beat a drum. The busy housewife finds that she has neither the time nor patience to carry on experimental work in a drenching rain.

Now as to the different types of chickens; every one who raises poultry is generally partial to his own favorite breed, or ought to be. A pure-bred chicken is a joy, but methinks a mongrel is neither beholden to look upon nor fit to eat.

After trying six or more different breeds, I decided to continue raising the White Plymouth Rocks, as they are an all-purpose fowl for the farm, and if fed the white corn are a thing of beauty, lay well, and are delicious for the table.

There is no doubt but what the Leghorns fill the egg basket, are self-supporting and great hustlers, if you do not keep a watchful eye upon your favorite pansy bed. They seem to have a decided "penchant," however, for roosting in the trees late in the fall, and if they are not chased out continually will freeze there. If I were going to raise chickens at the North Pole I would raise the heavy breeds, and if I lived at the equator, Leghorns and Bantams would be more appropriate.

Much has been written about the curtain-front poultry house. I lost about two dozen Leghorns in a week, one severe winter, with a curtain front while I was attending lectures in Columbia on poultry culture, and consequently have learned to combine the glass and curtain front.

Of all the most provoking things to contend with, after raising a flock of half grown chickens, is to have a rat, a prowling stray cat, or perchance, a hog out of the fattening pen, quietly feast upon them.

There is much with which to contend, yet the farmer's wife, with eternal vigilance as to system and cleanliness, will always find that the good old Missouri hen not only fills the exchequer and supplies the table with many delicacies, but the outdoor work is the best kind of preventive medicine, and if our Creator hadn't given us the intelligence to combat and overcome every obstacle he would have made *us* into chickens.

POULTRY HUSBANDRY.

(Miss Martha Blume, New Franklin, Mo.)

I began my course of instructions on poultry husbandry under Prof. Kempster at the Missouri State University January 6, 1913. This was on a short course scholarship which I won through a tomato contest, and I was repaid manyfold for the labor expended in the contest.

I was ably aided in my work by Miss Kinney of New Franklin, my home town, who is an enthusiastic and able worker in promoting the short course at the State University.

Mr. Kempster taught us through a course of lectures and instructed us in the methods of constructing poultry houses, selecting different breeds, hatching eggs and caring for young chicks, particularly in feeding and housing. He treated exhaustively the subject of eggs, and gave methods of properly caring for them to maintain their freshness and insure wholesome eggs for culinary purposes and marketing. Mr. Kempster demonstrated that eggs should be sold direct to the consumer by the producer. Thus would be avoided the probability of an impure article of food. The consumer would by a direct dealing with the producer also buy more economically.

I would deem it advisable for all who can do so and who are interested in the production, growing and care of poultry to take this short course at the State University at Columbia under Mr. Kempster. No matter whether they are veteran poultry raisers or beginners, they will secure much valuable information that they might not otherwise obtain.

HOW THE FARM WIFE MAY HELP TO IMPROVE POULTRY CONDITIONS IN MISSOURI.

(Mrs. R. Lee Alford, Vandalia, Mo.)

This is indeed an age of improvement and progress, and to get the most out of poultry culture one must be educated in its arts and science the same as any other industry in which we hope to excel. Surely the people of no other state are so richly endowed with opportunity for education in this particular line than we of Missouri, and it is now possible to obtain best results with poultry more economically than ever before, due to the growing interest and demand for knowledge along this line, which is supplied through our best farm papers, poultry journals and bulletins from our State Poultry Experiment Station, State Board of Agriculture and College of Agriculture.

The object of the Missouri Home Makers' Conference is through combined effort to show the farm wives of our State what important factors they may be in helping Missouri retain her reputation as "Poultry Queen of the Union" and what better poultry, better houses and better methods will mean to them in a financial way. This is being done to a large extent by both the State Poultry Experiment Station at Mountain Grove and the poultry department of our State University, and the excellent work done by these institutions can be supplemented by concerted effort on the part of the home makers.

There is money to be made in poultry culture and it is as dignified as any other occupation, but intelligent business people are required to make a success of it. It may be combined with housekeeping without detriment to either, is a healthful as well as a profitable occupation and surely lies within woman's sphere. It has many and interesting attractions and is peculiarly adapted to women.

While poultry on the farm can be made to play an important part in producing a living, and on many farms is the main and on some the only source of income, too many of us are still satisfied to go on in the same old way year in and year out—some through necessity and others through lack of interest or indifference.

Every farm in the State should be stocked with pure-bred poultry, and it is just as important as thoroughbred horses, cattle, hogs and sheep, and for the same reason, it gives one more pleasure and profit.

Many feel that the cost of getting started with pure-bred poultry is too great, but it is unnecessary to pay exorbitant prices for either stock or eggs or to raise fancy stock. You will, however, find much greater profit in disposing of all mongrels and investing in some one good variety.

The surplus poultry and eggs shipped in this State during the past year amounted to over $50,000,000. It has been said that if the surplus eggs produced in Missouri for one year were laid in a row, end to end, they would extend more than twice around the earth.

From the standpoint of breeding, the old belief that "eggs are eggs" no longer prevails; but by selection of both the quality of our breeders and the size and shape of the eggs we incubate, we are each year making progress and stamping size and quality in our flocks.

There is no "best breed," and it is true that more depends upon the strain or breeding of a variety as to the number of eggs it will produce than upon the variety itself. You have only to choose the variety and color that most appeals to your fancy and then breed them up in quality and productiveness to the highest standard possible.

A good egg laying strain is necessary for successful production, and we should exercise great care in the selection of our breeders.

You cannot expect high egg production unless you breed from only the best in the flock, and to me the trap nest plays the most important part in discovering the best. By this means you are able to select your heaviest laying pullets, and if they come up to the standard in size, type and color, carry them over for the next breeding season. While two-year-old hens are rarely so productive of eggs as in their first year, they are our strongest breeders. Too many make the mistake of discarding all their hens and retaining only the pullets, and there are also those who keep their hens long after they have outlived their usefulness. Here again the trap nest pays, for there is no economy in feeding a hen which does not lay.

It is not always practical for farm wives with their numerous cares and responsibilities to trap-nest their hens, but where this practice can be carried on, at least during the breeding season, you will find it most satisfactory.

We are no longer satisfied to give to our birds what we may have at hand and accept in return the best the hens can make of it; but by close and careful study, and, perhaps, a few experiments of our own, find just what food is best adapted to heaviest egg production, for after all it is *eggs* we want whether we are devoting our attention to the fancy or utility side of poultry culture. We must of necessity have a certain amount of utility along with the fancy or we make little progress in either line.

It has been suggested that the women of our State undertake an egg laying contest in their own home under the direction of the Missouri home makers, and I feel this will very largely increase the interest in farm poultry and thereby bring about better conditions.

"SOME PUMPKINS"

MISSOURI IS "SOME PUMPKINS."

(Copy of circular prepared by W. L. Nelson and issued November, 1913.)

Missouri is "some pumpkins." Each year the Missouri farmer cuts a half billion dollar melon.

"Some pumpkins" in corn! Missouri will this year harvest more than a million bushels of corn to the county—and there are 114 counties in the State. Despite the discount that drouth demanded, we are still "some pumpkins" in corn production. Preliminary figures by the United States Department of Agriculture credit Missouri with more barrels of corn than Kansas has bushels—and it takes five bushels to make one barrel. The Missouri corn crop of 1912 was about a quarter of a billion bushels. But two states in the Union—Illinois and Iowa—grew more. Five Missouri counties each grew more than 5,000,000 bushels of corn, while seven others grew more than 4,000,000 bushels each. These twelve counties together grew one-fourth as much corn as the entire State of Indiana, practically the same as either Michigan or Wisconsin, more than one-fourth as much as either Kansas or Nebraska, one-third as much as the entire State of Texas, one-half as much as Oklahoma and more than all Arkansas. The combined output of corn grown in twenty states of the Union is less than that of these dozen Missouri counties. One Missouri county alone, with production of 6,413,000 bushels, grew more corn than any one of sixteen states. Argentina, that vast country of South

America, grew but one-fifth more bushels of corn than did Missouri. Had all our corn, in the ear, been loaded on cars it would have made a train extending from New York to San Francisco and filling a sidetrack from St. Louis to Kansas City. The cobs, if made into Missouri meerschaums, of which the State last year manufactured more than 28,000,000—enough for every fellow to give Old Missouri a "puff"—would have enabled the whole world to smoke the pipe of peace. Combined in one ear, the cob would have served to bridge the Atlantic, or hollowed out it would have provided a traffic tube for continent-to-continent trains.

"Some pumpkins" in wheat! The 1913 Missouri wheat crop amounted to more than 35,000,000 bushels—more, according to preliminary figures by the United States Department of Agriculture, than that of any other state, save six. This is more than twice as much wheat as was grown in either Oklahoma or Oregon, both heralded as wonder wheat states. It is more than three times as much as was grown in the entire State of Texas, where the wagon haul to railroad is often as long as is the railroad haul in Missouri. It is more than three times as much as is grown in Colorado, where the millionaire goes for air, and almost thirty times as much as is grown in Arkansas, where many go for bear. It is more than was grown in Alberta last year; and in this same Missouri, land of balmy days and blue grass, is grown a wheat crop equal to one-sixth that of all Canada. Had the Missouri wheat crop of the present year been made into flour and the flour converted into loaves of bread of standard size, the output would have been enough loaves, if placed end to end in a single row, to have extended from the earth to the moon and more than half way back. If made into biscuit—but why invite everybody to breakfast! This year seven Missouri counties each grew more than a million bushels of wheat. The wheat production of any one of these seven counties equaled that of any one of a dozen states, while the combined wheat production of these same counties equaled the production of any one of twenty-five states. This year any one of half a dozen Missouri counties grew enough wheat to have provided one loaf of bread for each of the 93,000,000 inhabitants of the United States.

"Some pumpkins" in oats! The Missouri oat crop of 1912 was approximately 30,000,000 bushels. Figures showing yield for the present year are not yet available. The threshed crop was somewhat short, the yield from thousands of acres being used as breakfast food for aristocratic representatives of the live stock world. So used, it puts on the pounds and commands premium prices.

"Some pumpkins" in hay! With a hay harvest of 4,143,000 tons in 1912, Missouri, according to government figures, was surpassed by but three states—New York, Iowa and Pennsylvania. The Missouri crop was practically the same as the combined output of all the south central states—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas and Oklahoma. In value, it was more than double that of the Kansas crop.

"Some pumpkins" in blue grass! Missouri is credited with growing more blue grass than is grown in all the states north of her northern border or south of her southern border. This greatest of all grasses cannot be baled and shipped to other states to add to their fertility and to lessen ours. Nature generously gave it to us to hold in trust for all time. In turn, it feeds the millions of animals that graze over it and thus constantly contributes to the fertility of the soil. Only the seed is shipped. This finds ready sale in Kentucky and other states.

"Some pumpkins" in total value of farm crops! Missouri is now fourth state in the Union in total value of farm crops. Texas is first, with crop values for the year 1912 amounting to $407,166,000; Illinois, second, $289,326,000; Iowa, third, $284,395,000; Missouri, fourth, $196,968,000. A further analysis of the figures as given by the government shows Missouri's superiority. For instance, the total land area of Missouri is but 43,985,720 acres as compared with 167,934,720 acres in Texas. Missouri, with only about one-fourth the land area, produced last year farm crops worth approximately one-half as much as all Texas. In 1912 Texas farmers cultivated 7,300,000 acres of corn land; Missouri farmers, 7,622,000; Kansas farmers, 7,575,000. The corn acreage for the three states differed but little—the difference is in the yield. Texas grew 153,300,000 bushels of corn; Kansas, 174,225,000; Missouri, 243,904,000. For his work the Texas farmer got 21 bushels of corn per acre, the Kansas farmer 23 bushels and the Missouri farmer 32 bushels. Had the Missouri farmer planted two million acres less of corn than he did in 1912 he could still have harvested more corn than did the Kansas farmer. Had this same Missouri farmer planted three million acres less of corn he could have grown as much corn as did all Texas. The cost of growing an acre of corn, including rent of land, is placed at $12.27 for the United States. So the Missouri farmer, by being able to save the cost of cultivating two or three million acres and still grow as much corn as Kansas or Texas, has an advantage of $30,000,000 or $40,000,000.

"Some pumpkins" in pigs and pork! Missouri with more than 4,000,000 hogs is surpassed by but two states. If all these hogs were one hog the only ring big enough to stay its rooting would have been the equator. So, with snout free, it might by a little rooting have saved "Uncle Sam" the price of the big ditch at Panama. In perfection of pork products Missouri occupies first place. Each year about 1,500,000 hogs are consumed on Missouri farms. If all the Missouri "hog killing days" were combined in one the only pole that would be big enough to hold the carcasses would be the North Pole. Here is breakfast bacon, the kind with which the pioneers greased the path of empire westward. Here, too, is the home of the old ham, the sweet and savory country-cured product. Here he who makes two such hams grow where only one grew before is proclaimed a public benefactor.

"Some pumpkins" in poultry! The value of Missouri poultry products for a single year approximates $50,000,000, or more than that of any other state. This is something to crow over. According to Governor Major, the Missouri hen lays enough eggs to give to each man, woman and child in the United States a dozen eggs annually. In a world-wide egg laying contest, just concluded, a Missouri hen was the winner. If all the chickens in Missouri were one rooster and that rooster were "swatted" according to Marquis of Quisenberry (prize poultryman, not prize fighter) rules, a single drumstick would make the "big stick" of politics look like a splinter on a sawlog.

"Some pumpkins" in cattle! With 789,000 milch cows and 1,444,000 other cattle, milk and beef production in Missouri is a big business. Each year more Missourians see in the "milky way" a path to profit. From Missouri feed lots come the cattle that top the St. Louis and Kansas City markets.

"Some pumpkins" in sheep! Missouri sheep number 1,650,000. But one other state in the Union has as many sheep worth as much per head. The value per fleece is exceeded only by that of some clips reported from the "lamb shearing works" on Wall Street.

"Some pumpkins" in horses and mules! Missouri has 1,084,000 horses, being one of six states in the more-than-a-million class. Missourians do not ride hobbies—they ride saddle horses, the best in the world. In number and quality of mules we stand at the head—the only safe place.

"Some pumpkins" in peaches, melons and berries! This year from the peach belt of Southern Missouri almost 1,000 carloads of peaches were shipped, most of them coming from two counties. One Southeast Missouri county ships annually 1,000 carloads of watermelons. From a few counties in Southwest Missouri strawberry shipments amount to 500 carloads per season—enough to make every strawberry shortcake longer.

"Some pumpkins" in cotton! Missouri is not ordinarily counted a cotton State, yet no other state growing as much corn or wheat as is grown in Missouri also grows as much superior quality cotton. Should Missouri cotton fields fail there would be a shrinkage in "all-wool" garments.

"Some pumpkins" in people! "No state produces a better crop than its inhabitants." No state has a better citizenship than Missouri. Each year we are growing a better crop of state pride. As Missourians, we are standing up for our native land "whether born there or not."

SHORTHORN BRINGS $38,983 IN THE ARGENTINE.

Americus, a Shorthorn bull, has sold for 38,983 gold dollars in the Argentine. The price in the money of this South American country was 80,000 pesos. Not only is the price an unusual one—probably a record—but in connection with this sale there are other things of interest.

Americus is a great show animal. In junior form he was champion and as a more mature bull exhibited the same outstanding bloom, quality and finish. His winnings include championships and many cups, among the latter the Madernan, the Nicanor and the A. de Bary cups.

Mr. Leonardo Pereyra of Argentine, the breeder of Americus, in a letter to Mr. George M. Rommel, chief of the animal husbandry division of the United States Department of Agriculture, says: "If Americus is a prototype of this race, his impressive style while in the ring furthermore commanded the spontaneous opinion, not only of our breeders but of the British public present, that very seldom had such a genuine specimen of the race so justly imposed his triumph. Americus was bought by Mr. B. Ginocchio for his 'Cabana Santa Aurelia,' to whom the female championship was awarded for his exceptional cow, 'Industry 22nd,' a breeder who also obtained the champion prize at our last fat show."

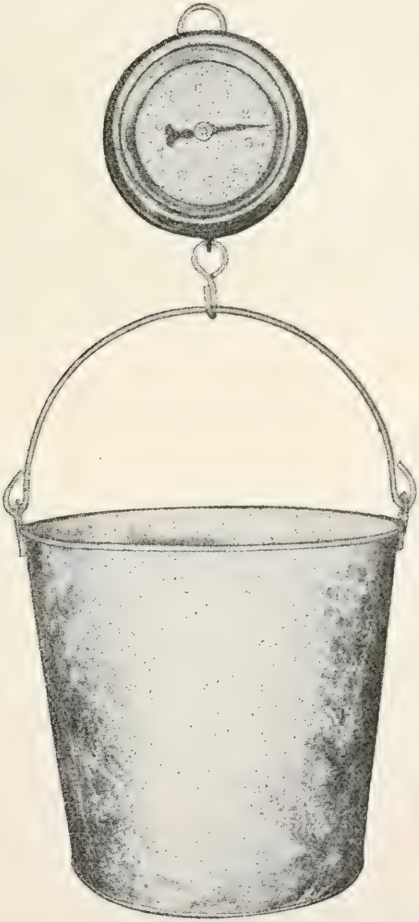
The record price calf of a Missouri cow.

Interesting as are these facts concerning Americus, there is yet one of more interest to the people of the United States, and especially of the Mississippi Valley corn belt. The dam of Americus was Merry Ravenswood 3rd, calved December 2, 1902, and bred by Messrs. Chas. E. Leonard & Son, Ravenswood farm, Bunceton, Mo. When three years old she was sold to Mr. Walter L. Miller, Peru, Ind., who shipped her to South America. Not only was the dam of this bull bred by the Messrs. Leonard, but they also bred six of his top dams and one of his sires.

HOW TO MEASURE RAINFALL ON THE FARM.

(From United States Department of Agriculture.)

The amount of corn, wheat, cotton, tobacco, etc., that can be harvested from a given acre of ground, other things being the same, bears an intimate relation from year to year to the amount of water supplied to the same acre by rainfall or otherwise, as compared with the average rainfall of the locality. If the progressive farmer will only keep a careful record of the rain that falls in his locality, especially throughout the growing season, and compare this with the normal or average amount for the same region, he will find himself able, as the season advances, to form a very intelligent estimate of the prospects for a good, a bad or an average yield of his more important crops.



An excellent equipment for collecting and measuring either rain or snow consists of a simple pail or bucket. The location selected for setting out the pail should be chosen at a point in some open lot or field unobstructed by large trees or buildings; nevertheless, low bushes, fences, or walls that break the force of the wind in the vicinity of the gauge are beneficial if not too near or too high. Low vegetal growth near the gauge is also beneficial, but the top of the pail must be at least as high as the general growth. It is almost needless to say that the pail must be secured against being overturned by the wind, animals, or accidental causes. Such a collector of rainfall constitutes almost an ideal rain and snow gauge, and it remains only to explain how to measure the collected precipitation properly. This is best done by weighing the contents of the pail. A balance should be used that will give the weight accurately in ounces or half ounces. If such a scale is not already in the possession of the farmer, it will more than repay him to buy one of the inexpensive spring balances such as shown in the cut herewith. If now the diameter of the pail is just 10½ inches at the topmost edge, each ounce of water collected represents two-hundredths of an inch of rainfall, or, in figures, 0.02. Many 12-gallon pails are exactly 10½ inches at the topmost edge. If, for example, after a rainfall the pail and its contained water is found to weigh, say 3 pounds 8 ounces, and the empty pail alone weighs only 1 pound 14 ounces, the difference gives 1 pound 10 ounces net = 26 ounces; 26 × .02 = .52 inches of rain.

The measurement of the contents of the pail by weighing avoids all difficulties as to whether the precipitation is in the form of rain or snow. The result is always the equivalent depth of rainfall. Moreover, a pail with sloping sides is just as good as, in fact it is better than, one with vertical or parallel sides. In each case, however, the diameter must be just 10½ at the top inside edge, so that each half ounce of collected material represents one-hundredth of an inch of precipitation. The record should be taken at about the same time each day—weather observers record one day's fall regularly at 5 p. m. In hot weather, when water evaporates quickly, the record should be made as soon after the rain has stopped as is practicable.

LIVE STOCK MARKETS FOR YEAR 1913.

(Compiled by W. L. Nelson from market papers and other sources. Photos by author.)

Many factors contributed toward making the year 1913 an unusual one in live stock. Tariff changes and a consequent uncertainty as to the part Argentine beef might play, a prolonged and disastrous drouth, and the prevalence of hog cholera, all featured in the general result. Despite handicaps, the year 1913 was generally favorable for farmers and feeders.

Broad-backed Missouri beeves.

CATTLE.

In reviewing the 1913 cattle market the Daily National Live Stock Reporter of January 1, 1914, said:

All classes, from the prime and fancy heifers down to the common light kinds, were in favor with the buyers. And in the face of unprecedented market irregularities average prices soared away above the 1912 average. The year's top load of heifers brought $9.65, and at the best time it took only a choice grade of heifers to make $9 or better. The average bulk of desirable heifers was $6.94 to $8.13, as compared with $5.40 to $6.66 in 1912.

The average bulk of beef steer sales during 1913 is higher than that of 1912, this, however, being in a measure accountable for by the fact that the beef steer crop in 1913 was fed on the corn yield of 1912, which was one of the largest and best quality yields ever produced. The average daily beef steer top for 1913 was $8.87, as compared with $9.10 for 1912, but again there were fewer fancy cattle marketed here—last year, like 1912, drouth hampering the finishing of cattle which had they been fed out undoubtedly would have brought high prices. The average bulk of native beef steer sales for 1913 was $7.54 to $8.65, as compared with $7.10 to $8.32 in 1912. The Christmas cattle trade was somewhat of a disappointment, but at that the top last year was the same as 1912, viz., $10.

The year just closed was the banner year for yearling steers, as a load of them brought the year's top, which was $9.80, and several bunches sold at $9.75. Heavy steers were rather unpopular throughout the year, and consequently no high prices were realized on these kinds, although 1,700 to 1,900-pound beeves brought $8.50 to $8.75.

Best grades of beef cows throughout the year sold well above $7, and a price of $8 was the year's high mark. The average bulk of beef cow prices in 1913 was $5.31 to $6.60, as compared with $3.77 to $5.71 in 1912.

Coincident with the advance in prices on killing cattle during 1913 came an upward trend of values on stockers and feeders. The trade on those classes during the year just closed was remarkable in divers ways. The first six months of the current period the trade was at its zenith both in the volume of dispositions and prices which the stock commanded. During these months the shipments to country points of stock and feeding cattle showed an increase of approximately 81 per cent over the same time in 1912. Average prices for feeders at this market in 1913 were the highest on record.

There was a good reason for this, however. Probably the most apparent incentive to the feeding of cattle was the banner corn yield of 1912, when the production was one of the largest in the history of the corn belt. Cattle feeders were able to secure the best grade of corn for a small cost, and while some had been fed out through the winter, yet there was a good supply with which to begin spring and summer operations. Moreover, fat cattle prices during preceding months were most attractive.

Before the severe drouth set in, which was about the latter part of June, the year 1913 gave promise of being the best year for stockers and feeders in the history of St. Louis. Breeders and raisers of both classes were unable to supply the excessive demand and prices were away above any ever before realized. Imagine feeding steers selling above $8 and up to $8.25 and you have a fairly accurate conception of how badly feeders wanted them. Drouth cut short feeding operations, however, and in the late summer and early autumn shipments to country points showed a decided decrease. One remarkable feature was the fact that while the demand was visibly narrowed prices held up admirably, despite the fact that a great many half-fat steers were disposed of to the killers for lack of feeding demand. Top-feeding steers last year sold for $8.25, nearly a dollar higher than the best price in 1912. The average top on feeders was $7.40; that on stockers $7.05, and the bulk of stockers and feeders in 1913 was $6.06 to $7.27, while at the best time in 1912 they were selling at $6.25 to $7.

During the year 1,234,053 head of cattle were slaughtered at Kansas City. In its review of the cattle market for the year the Kansas City Daily Drover's Telegram said:

The day of extreme high prices for fancy Christmas cattle is a thing of the past in the opinion of the leading buyers of packing houses. Ever since the sale of the steer Advance in Chicago at $1.50 per pound, the highest price ever paid for a steer, the tendency has been to conservatism and reason in the matter of buying Christmas cattle. The move to keep prices of fancy cattle within a narrow margin of the top prices on the open market was more pronounced this year than ever before and proved a great disappointment to many ambitious feeders throughout the country. At the American Royal Show the prize winners sold at $12.85, while the tops on the open market ranged up to $9.55 in that month. The grand sweepstakes winners at the International Exposition in Chicago sold at $13.25, while the bulk of the finest cattle ever grown sold only at a slight margin above the open market. In Chicago, where prime heavy show cattle were plentiful this year, the prices declined materially and many averaging over 1,600 pounds sold down to $7.75, a level far below the range on the open market in the preceding week. The cause of the decline in the prices of premium cattle is the high price of ordinary cattle, and there is no profit in handling them, either to the feeder or the butcher.

Beef steer prices developed few material fluctuations in the first three months, the tops selling up to $9. In April and May the tops were $8.85 and $8.70 respectively, the only time in the whole year when the tops ranged under $9 for fed classes. The top price paid during the year was $10, outside of the American Royal show steers, which sold at $12.85. The final four months witnessed a return of prices to the high level of the year for medium and weighty kinds, though $1@2 under the high level in 1912. Yearlings generally ranged from $1@2 above 1912 and outsold the weighty classes during the greater part of the year, closing much higher than the heavy weights. Butcher classes ran to moderate supplies, and the shortage was felt in every month. There were fewer common range cows and cutters than ever before and prices ruled the highest ever known, mostly above $4.25 to $5, and seldom down around the $4 mark. The highest price paid for cows was $8, and they ranged down to $7.25 at the close of the year. Heifers sold up to $9.25 in October and November and down to $7.75 in January. Mixed yearlings ranged up to $9.75 in January and down to $8.50 in February. In the closing months the tops ranged from $9@9.40. Bulls and stags sold readily at strong to higher prices during the entire year and closed up 25@50 cents above a year ago.

Shipments of stock cattle from Kansas City in 1913 broke all previous records. The total outgo was 26,797 carloads, 913,701 head, or 39.4 per cent of the entire supply of cattle and calves received.

A review of the stocker and feeder trade and movements in 1913 shows a remarkable state of affairs which completely upset all previous records. The prolonged drouth in the middle west, which began early in the summer and continued unbroken until well into September, caused a shifting of supplies from one section of the country to another on a larger scale than in any previous year. The affected area was the largest ever known and the drouth of the longest duration. Stockmen kept up a hard fight against the inevitable, in the hope that the weather conditions would change and save them from disaster. For months cattle were driven from pasture to pasture where water and grass were available, and finally were forced on the market to prevent starvation. While a good many thin cattle were marketed in June and July, August and September were the big months when forced shipments predominated. While the middle west was suffering the eastern portion of the corn belt was favored with plenty of moisture and bountiful crops maturing. At the same time eastern feed lots were practically depleted—a legacy from the preceding year's short feed crop—and hungry for cattle to consume the growing crops. All eyes were turned on Kansas City—the greatest stock cattle market in the world—from the west for an outlet, from the east for supplies, with the result that the trade in the three big months, August, September and October, was the heaviest known. For the above period there was a gain of 117,600 over 1912. The big gains were made by Missouri, Iowa, Illinois and other eastern states, while Kansas, Nebraska and other western states encountered corresponding losses. There was an unusually strong demand for choice to prime grades, while the eastern buyers were prominent in the trade, and the top prices for stockers under 900 pounds ranged from $7.70 to $8.60, against $6.10 to $7.25 in 1912. Feeders over 900 pounds ranged from $7.75 to $8.65, against $6.60 to $8.25 in the preceding twelve months. Stock cows, heifers, bulls and calves sold at the highest range ever known in the history of the trade, practically the whole year, showing slight declines in the final month.

At times choice fleshy steers sold to feeders fully as high as fat cattle and competition between packer and feeder buyer was no uncommon sight. Choice toppy feeders seldom sold under $7.75 and up to $8.65 in June. Prime stockers and yearlings ruled above $7.75, except in January and September, and ranged up to $8.60 in October. Stock cows and heifers were scarce, and with the exception of the final month maintained the highest level of prices ever known in the history of the trade. Thin western and range heifers frequently sold at $7 and up to $7.50.

HOGS.

Receipts of hogs at the Kansas City Stock Yards for the year 1913 were 2,567,785. This was an increase of 52,000 head over 1912. During the first half of the year the quality of hogs marketed was exceptionally good, but toward the close of the year weights ran lighter and quality was rather poor.

Cattle and hogs on a big Missouri farm.

In April hogs reached $9.25 per hundredweight. The following from the Kansas City Daily Drover's Telegram shows the opening and closing range of price for each month (bulk of sales) and net gain or loss for the year:

	Opened.	Closed.	Gain.	Loss.
January	$7.10@7.40	$7.30@7.50	$.15	
February	7.35@7.50	8.25@8.35	.87½	
March	8.20@8.25	8.80@9.00	.67½	
April	8.90@9.20	8.25@8.42½		$.74¼
May	8.30@8.45	8.65@8.70	.30	
June	8.55@8.70	8.65@8.70	.05	
July	8.65@8.75	8.70@8.90	.10	
August	8.80@8.95	8.15@8.45		.57½
September	8.20@8.50	8.52@8.60	.07½	
October	8.15@8.50	7.55@7.85		.60
November	7.50@7.77½	7.25@7.50		.26¼
December	7.30@7.70			

Sales of hogs on the St. Louis market amounted to 2,583,908 head for the year 1913. The Daily National Live Stock Reporter in its review of the hog market for the year 1913 said:

> The year opened with the top of the market around $7.50 or just a little higher, but prices were soon on the advance and by the first of February the top was up to $8, and before the end of the month was reached the best offerings were bringing a little better than $8.50, thereby showing a gain for the two first months of the year of $1.00. Early in March prices were up to $9.25 and reached $9.55 before the end of the first week in April.
>
> This shows an advance during the first four months of the year of $2.00. No material change took place soon, but later prices dropped down so that by the first of May saw hogs up to $8.80 and by the middle of June $9.00 was again reached and $9.55 in July, placing the market back to the high basis the first of April.
>
> Values now started down and continued to go up and down but mostly down, so that the top was under $9.00 early in October and under $8.00 the greater part of December; however, the close of the month of December saw prices back above $8.00 and higher than any other western market from 5@30 cents.

Following is given the receipts of hogs by months for the year 1913 at the National Stock Yards, East St. Louis: January, 282,960 hogs, 182 pounds average weight; February, 219,015 hogs, 180 weight; March, 194,211 hogs, 170 weight; April, 189,664 hogs, 179 weight; May, 231,442 hogs, 185 weight; June, 226,463 hogs, 183 weight; July, 189,016 hogs, 181 weight; August, 175,222 hogs, 183 weight; September, 189,417 hogs, 182 weight; October, 182,181 hogs, 182 weight; November, 214,232 hogs, 178 weight; December, 290,138 hogs, 169 weight.

SHEEP.

In reviewing the 1913 sheep market the Daily National Stock Reporter said:

> The year opened with the best lambs selling at $8.75 and sheep at $4.85, but it was only a short time until lambs were up to $9.25 and sheep $5.50. Lambs continued to sell at $8.75@9.25 clear on through May and sheep were selling at $6.25@6.75. In June, July and August prices were on a slightly lower basis owing to the heavy receipts. Best lambs ranged from $7.50@8.10 and sheep from $4.00@5.00.
>
> In September and October lambs sold at $6.85@7.90 and sheep from $4.00@6.50. During the last two months lambs sold at $7.50@8.25 and sheep at $4.50@5.00 and buyers were quite anxious for them at the prices most of the time. Bucks the last few months sold largely at $4.00. What is generally termed as stock sheep found a good market as the packers are purchasing a lot of them for choppers and canners.

Good sheep on a good Missouri farm.

On the Kansas City markets shortage of muttons on western ranges made the receipts of the year the lightest since 1909. The following table from the Daily Drover's Telegram shows the high prices paid for mutton and lambs in the different months of the year 1913:

Month.	Lambs.	Yearlings.	Wethers.	Ewes.
January	$9.30	$7.05	$6.00	$5.50
February	8.85	7.65	6.50	6.25
March	12.00†	7.75	7.00	6.75
April	9.05	8.00	7.25	7.00
May	8.60	6.85*	6.60*	6.10*
June	8.25†	6.00*	5.80*	5.50*
July	8.50†	5.75	5.35	4.65
August	8.00	5.50	5.00	4.60
September	7.75	5.75	4.85	4.50
October	7.85	5.85	5.15	4.85
November	8.10	6.40	5.35	5.05
December	8.10	7.10	5.90	5.15

†Spring lambs. *Shorn.

In reviewing the markets for the year it is gratifying to note that feeding operations were generally productive of profit. As always, and especially during a year when much poor feed must be sold or fed on the farms, the live stock farmer had a decided advantage. Missouri farmers are fortunate in having within easy shipping distance and practically within the State three large markets, St. Louis, Kansas City and St. Joseph. Prices paid at these markets compare favorably with those elsewhere. This with the shorter ship and consequent lower freight charges that the Missouri farmer and stockman enjoys, really amounts to a premium over the price received by others less advantageously located as regards distance and markets.

GOVERNOR MAJOR'S GOOD ROADS DAYS.

(Jewell Mayes, secretary.)

On July 21, 1913, Gov. Elliott W. Major issued the first State proclamation ever promulgated for a good roads day—in fact, not a good roads holiday, but, instead, two good roads working days.

Only thirty days to agitate and educate in the state-wide campaign for a "new thing" in road work in a State having 277,244 farms and a total population of 3,293,335—for the good roads days were set for August 20th and 21st!

Although the summer of 1913 was one of the driest and hottest in the history of the middle west, the people of town and city and country took up the proposition with fine spirit. To the credit of the country newspapers and the daily papers let it be truly recorded that they deserve the thanks and the increased support of all lovers of better roads, for it was a great publicity campaign that the papers of our State conducted.

As these words go to every state and to many foreign countries, it would not be amiss to present at this point a copy of the first proclamation of its kind ever issued by any Governor of any state, as follows:

GOVERNOR MAJOR'S PROCLAMATION.

Whereas, The public roads of the commonwealth are its highways of commerce, constituting the strongest link in the chain of commercial greatness; and,

Whereas, No achievement can bring quicker, surer and more lasting benefits to our citizens and pay heavier dividend than the construction and improvement of our public roads; and,

Whereas, The State will this year contribute and pay to the people for good road purposes more money from the public funds than the sum total paid in any three years in the past; and,

Whereas, Every citizen is directly interested and benefited by road construction and betterment;

Now, therefore, I, Elliott W. Major, Governor of the State of Missouri, do hereby set apart Wednesday and Thursday, August 20 and 21, A. D. 1913, for road work in the State of Missouri, and designate these two days as "Good roads days" and declare same public holidays, and request that all other business be suspended as far as possible, and that every able-bodied citizen labor upon the public highways of the State during these two days, and that the work performed be such as will make a lasting and permanent improvement such as road grading, culvert building, ditching, graveling, dragging, etc.

I call upon the county court of each county to issue a proclamation calling upon the people to turn out and labor and see to it that the county is fully and completely organized, so the work will reach to every neighborhood and be conducted in a systematic and business way, to the end that when the sun shall have set upon the second day there will be left no community in all the State where the hand of progress and toil has not left its mark in permanent road improvement and the progressive spirit its impress on the hearts and minds of the people.

I call upon the country and city press to assist in organizing and bringing to the roads for work an army of labor volunteers grander far than the brilliant pageantry of martial splendor, and whose song of progressive achievements will be sweeter than the rattle of arms.

I also call upon the road overseers, road associations, commercial and booster clubs of the commonwealth to give us their active and united support in carrying to a successful completion this undertaking.

Let the women of Missouri share in the work and glory. I, therefore, call upon them to prepare dinners and see they are served to the laborers along the way. These two good road days will mark a new epoch in the history of Missouri and in our zeal for road building. It will be the most stupendous two days' public work ever given in the history of the republic, and will stand unequaled, unique and absolutely alone.

Let every Missourian show by his work he is for the internal improvement of the State. Let us labor that we may enjoy the fruits today and our children a fuller fruition tomorrow. There is no more certain way of advancing our State and the interests of all than through our roads. Around the history of ancient Rome still towers the Appian Way.

Let us labor with a patriotism and interest never felt before. At the lowest estimate, the improvements placed upon our roads and highways during these two days will total $1,500,000.

By this simple procedure a million days' work will be placed upon our highways, benefiting the present, and in the coming years will bring a return of a hundredfold and give the good road movement an impetus which will not cease until in this respect we stand first among the states.

As Missourians we have ever been the pioneers in western achievement and civilization—let us now lead the way to a new day in road work and improvement.

In testimony whereof, I have hereunto set my hand and caused to be affixed the great seal of the State of Missouri. Done at the City of Jefferson this 21st day of July, A. D. 1913.

ELLIOTT W. MAJOR, Governor.

(Attest) CORNELIUS ROACH, Secretary of State.

Governor Major in front of mansion ready for work.

THE CHIEF BOOSTERS.

The Federation of Commercial Clubs of Missouri was the greatest single factor next after the newspapers—in fact, these two forces were copartners, and it would be impossible to adjudicate the rights of the claims of either in comparison. President William Hirth and General Secretary A. N. Lindsey issued an approving manifesto calling on the four hundred and sixteen commercial organizations to get busy to help make the Major good roads day signally successful for the betterment of the commonwealth. The commercial clubs did effective teamwork.

COUNTY COURTS GOT BUSY.

The county courts followed strong and forcefully with county proclamations setting forth the advantages of the "working holidays" and explaining the methods or organization proposed. Jackson county was especially active, and the following concise county court proclamation was the clarion call to duty that brought results, this being one sample of the many good calls made all over the State:

JACKSON COUNTY PROCLAMATION.

Whereas, the Governor of the State of Missouri has set aside Wednesday and Thursday, the twentieth and twenty-first days of August, 1913, to be known as good roads days, when all good citizens of the State are requested to aid in the improvement of the public roads,

Now, therefore, the county court of Jackson county, Missouri, being heartily in accord with this movement, hereby sets aside said two days as good roads days of said county, and requests that all citizens of the county will devote said two days to the improvement of the Jackson county public roads.

By order of the county court of Jackson county, Missouri, this seventh day of August, 1913.

A UNION OF FORCES.

Commercial clubs, agricultural clubs, members of the Missouri State Board of Agriculture, automobile clubs, good roads organizations, religious bodies, labor organizations and many others issued calls and formulated plans for effective results.

The county highway engineers all over the State proved the efficiency and merit of the law creating their offices by doing practical work in formulating and developing plans for managing the army of willing toilers for the common good.

Wholesale and retail dealers in farm machinery and road tools loaned large quantities of equipment, including many thousands of new shovels and picks. On these days practically every traction engine of every type available in salesrooms and warehouses were freely offered for use, and these good roads days did more than any series of prior years to prove and popularize the worth and merit of traction machinery for road making in Missouri.

POPULAR SUBSCRIPTION LISTS.

One of the efficient and helpful methods employed to gather the sinews of war on weedy and rough roads was that of popular subscription lists that grew not unlike unto the historic gourd of Jonah's day, yet they did not come to any sad ending. The St. Louis Republic and other journals and many clubs and committees raised substantial sums for furthering the work of making better roads.

STATE HIGHWAY COMMISSIONER.

Good roads days, as well as the general results of the year 1913, demonstrated in that eloquence that is unanswerable—positive results—that the Legislature of 1913 builded wisely in establishing a State Highway Department.

Starting the work, inmates of State prison assisting.

Governor Major tendered the appointment of State Highway Commissioner to Col. Frank Washburne Buffum of Louisiana, Mo., a prince of good roads boosters and a captain of industry in Northeast Missouri. Colonel Buffum sacrificed his personal interests and accepted the post. Speaker Champ Clark designated this as "the best appointment that a Missouri Governor ever made." Mr. Buffum was the field general and director of the work over the State, subject to the counsel and supervision of the Governor. The month of August (usually a vacation time) was given over to the preparations for good roads days by the Governor's office and the Highway Department. System counts—and the new department demonstrated its splendid value by successful supervision.

What the Governor of Missouri said to the Governor of Kansas.

A JOKE WITH INTERSTATE RESULTS.

At a banquet given in Kansas City by the Kansas City Life Insurance Company on August 1st the writer heard Governor Major banter Gov. Geo. H. Hodges of Kansas and Gov. Lee Cruce of Oklahoma to come to Missouri on August 20-21 to see good roads built. Governor Hodges agreed to come if Governor Major would furnish the overalls. Major accepted the offer on condition that Hodges would work after he put on the overalls. Thus started what resulted in Governor Hodges making the trip to Missouri and becoming enamored of the idea—and Kansas and a full dozen other states followed suit with good roads days later in the season, patterning after Missouri, the latest being Illinois on April 15, 1914.

ATTRACTED WORLD-WIDE ATTENTION.

Hon. Jesse Taylor of Jamestown, Ohio, editor of "Better Roads," says:

> The news of Governor Major's Missouri proclamation spread beyond the borders of the State. The Brooklyn Eagle of New York said, in a congratulatory editorial, that the eyes of the nation were centered on Missouri and were watching the experiment with interest. Like comment was made by the press of New York, Chicago, Philadelphia and Boston. Even the staid Britishers took cognizance of the mobilization of an army of American road makers, for much comment appeared in the press of London and Liverpool. Missourians sojourning in Paris started a generous subscription list for the benefit of the work back home.

MOVEMENT NON-PARTISAN AND NON-POLITICAL.

State, district, county and township officers joined with the citizens to make ready for real road work. The rarest and most unique element in the observance of the days, as well as in the preliminaries, was the non-political and non-partisan spirit manifested everywhere.

SAYS EVERY STATE SHOULD DO LIKEWISE.

The Brooklyn (N. Y.) Eagle, in endorsing the good roads days movement in this State, said this:

> There is a curious reversion to older and better notions of citizenship in the plan of Governor Major of Missouri to set aside two days in August on which every able-bodied man in the State will be requested to give his service to the cause of good roads. There is nothing compulsory about it, but the Governor believes that fully three hundred thousand men will be patriots enough to give their brawn and muscle in this way to the State, and others will lend mules and horses and wagons and machinery. By simple mathematics it appears that three hundred thousand men working each two days would be the equivalent of two thousand men working every day of the year, which would make a marked difference in the Missouri roads. No contractor will get any graft or any profit out of this experiment. No politician will get anything. Public confidence is established at once. If the work can be organized properly and co-ordinated properly, the result ought to be all that the Governor hopes for. We wait with eager interest the Missouri experiment. It may be an example to every state in the Union.

A BOOST FROM THE NEW YORK SUN.

The ever conservative and sarcastic New York Sun made this optimistic comment in advance of the big days which gave Missouri its biggest advertisement of a quarter of a century:

Missouri men have established a tradition of temperamental suspicion. "I'm from Missouri and you must show me" is the catchword which they have adopted, as if thinking that it indicated acumen rather than plain stubbornness. But Governor Major of Missouri, anxious to get work done, has decided to make a personal application of the local maxim and see if his constituents really want to have actual work shown them, ready for their hands. As in many parts of the country, the roads in Missouri need a lot of work done upon them. Governor Major has begun at the right end; he has shown Missourians the roads and there is no doubt that they need somebody's pick and shovel, intelligence and back muscles. But is it only necessary to show Missourians work in order to get them to do it? This is what the whole country will take real interest in observing for itself.

ATTRACTED WORLD-WIDE ATTENTION.

The Capital News (Ind.) of Jefferson City made this comment on the good roads days:

Governor Major undoubtedly made a great hit with his good roads proclamation. It is a matter of genuine surprise how far the Missouri idea has traveled and how generally it has been approved.

A great many thousand Missourians took the Governor's proclamation at its true meaning, and beyond any doubt much good was accomplished.

The value of the improvements made during the two good road days can never be exactly known, but the total must be far above one million dollars. This of itself was well worth all the effort made, even if no good results follow hereafter. But everybody knows by this time that the two good road days were but a beginning of what is to follow. The Governor tried public opinion out—and he found that the sentiment of the people was with him.

It is rather a curious fact that the rest of the United States and all the more enlightened countries in Europe took the move in Missouri far more seriously than a good many home people, even employes of the State government and appointees of the Governor. Every state in the Union has taken the good roads boom to be a most commendable undertaking and one that was pushed through on the good roads days with the most satisfactory result, and in this they are exactly right.

Europe has viewed the movement with all seriousness. Governor Major has received a wagonload of letters and printed articles from all governments of Europe commending the good roads movement here in Missouri, and also complimenting the enlightenment of a people who will take hold of such an enterprise on their own motion and at their own expense and push it through successfully.

CITY AND COUNTRY PARTNERSHIP.

Editor Paul W. Brown of the St. Louis Republic wrote many strong editorials that stirred anew the patriotic spirit and the feeling of State pride and love for home in this good roads day campaign. The Republic voiced the spirit of co-operation between city and country in these words:

When the farmer is unable to market grain, hogs or cattle to advantage, because bad roads prevent hauling or compel small loads, that means less wealth in the State and less consuming power on the part of the city's best customer. When bad roads in winter shut up farmers on their farms, just at the season of leisure for travel, that means smaller crowds on the streets of the city. When the farmer cannot get to town the country merchant feels the effect first—but the city jobber feels it next. When the farmer, either as the seller of produce or the buyer of finished articles, is hindered in his coming and going, the manufacturer in the city, in consequence, needs fewer men and pays out less wages. St. Louis is just as truly interested in good roads in Pike county, Stoddard county, Laclede county and Adair county as the people of those counties themselves.

This State was torn and rent by the Civil war. For years its community life was impoverished by the war's effects. Missourians did not meet each other on the level of common State pride and fidelity as did the men of Iowa, or of Kentucky, or of Kansas. Attachments were strong, but they were local or regional—not State-wide.

Today a new spirit is abroad. New possibilities of co-operation are being realized. The laws passed by the last Missouri Legislature gave proof of this. A new sense of State unity shone through them. And this road festival, its enthusiasm covering the face of the State like a prairie fire in blue-joint grass, is giving an additional and mighty impulse to the unity of the New Missouri.

Governor Major operating road grader.

BOARD OF AGRICULTURE THE PIONEERS.

Governor Major and the people generally recognize the Missouri State Board of Agriculture as being the pioneer good roads boosters. The development of sentiment during recent years found its original foundation in the Board of Agriculture, and in the recent call for the State convention to organize a Missouri Better Roads Federation the State Board of Agriculture members were unanimously made delegates at large as a mark of honor for their record as good roads boosters and builders.

It is a most interesting fact that the Missouri State Board of Agriculture "discovered" the King road drag, the one most forceful factor in good roads making in America. To the vision and practical wisdom of Secretary Geo. B. Ellis (now editor of the Missouri Farmer) should be given the honor of having not only "discovered" the road drag, but also of having persuaded Mr. D. Ward King (its inventor) to begin lecturing in farmers' institutes. The Board's "Road Drag Bulletin" was the first of its kind ever published—and it attained the widest circulation of any good roads literature ever issued.

SETTING EXAMPLE FOR OTHER STATES.

The New York (N. Y.) Independent paid Missouri a mighty fine tribute in the following editorial:

> It is not the demand of the motor car men that led Governor Major of Missouri to set apart two days in which the men of the State were asked to volunteer to work on the roads of the State—it was the farm wagons and the humbler carriages which take the farmers to market and church that needed the day
>
> They say that when the youth, Abraham Lincoln, saw a slave sold at auction in New Orleans he vowed that if he ever had the chance he would hit that wrong, and he did hit it hard. Governor Major reports that he suffered so much as a boy from the "slews" and bad roads of his native county that he made a vow to do what he could to make them fit to travel on and that was long before he traveled by gasoline.
>
> Governor Major will be remembered as he who blessed the people with good roads days, and already the Governor of Arkansas has followed the example, and the Governor of Kansas was so enthusiastic over it that he put on overalls with his brother of Missouri, at his invitation, and worked by his side. The two were one, even as Kansas City is one in fact, although divided by the state line.

THE RESULT OF A GOOD EXAMPLE.

The Kansas City Star was one of the foremost of the good roads days boosters, and the following excerpt touches a forceful point full of truth as to sentiment:

> Governor Major's road days ought to have this lasting effect: When once the State has actually experienced the advantages from better roads it will be unwilling to go back to mud and holes and bumps.

TWO GOVERNORS AS ROAD OVERSEERS.

One of the prominent manufacturers of traction road machinery loaned the State executive a giant engine and road grading machine for use on the two days—and Governor Major, Governor Hodges, Congressman Shackleford and Commissioner Buffum did personal duty in overalls driving the engine and handling the grader.

MOVING PICTURES TO OTHER STATES.

The moving picture cameras worked overtime, and the good roads films were not only exhibited in Missouri but were in demand in every state in the Union. These films did much to stir sentiment for state-wide movements. Among the states that are reported as issuing proclamations like unto Missouri may be mentioned Minnesota, Arkansas, Kansas, Oklahoma, Alabama and Illinois. Missouri will have two good roads days again this year.

DROUTH BROKE WITH THESE DAYS.

The unprecedented drouth broke with the coming of the good roads holidays. The first rain began on the 18th and continued into the next day. The 20th was cloudless and hot.

Some sections of the State missed the rains and were warm in the extreme.

The wonder was the amount of work accomplished under the circumstances—the merchant and the farmer, the banker and the farm hand, the clerk and the teacher, all earnestly united in a common purpose, a unity of desire to accomplish "the one thing needful" for better farms and better towns.

Thousands of banks, stores, shops and offices were closed for one or two days, and their owners were found busily laboring on the highways in the open country.

The community spirit is stronger in Missouri because of good roads days. The Missouri farmer is awake to the fact that it will pay him to work his own roads around his own farm, in addition to such work as the district may perform.

At left, Governor Major; center, Highway Commissioner F. W. Buffum; right, Congressman Shackleford.

ONE COUNTY AS AN EXAMPLE.

On the signed authority of Capt. R. W. McCurdy of Independence, Jackson county's citizens did $14,780 worth of work during these two days. There were 2,762 days of work done by men and teams with scrapers and plows in that one county, besides independent workers, and 47 teams hauling supplies and 13 traction outfits on duty. Mr. McCurdy, besides many other items not here reported, concludes by saying "Aside from the money value of work done, there has been a general awakening among the whole people as to the value of good roads all over the county." A detailed report of Jackson county's results, published in the Good Roads Bulletin of the State Board of Agriculture, will be mailed on request.

SUMMARY OF DEFINITE RESULTS.

Herewith you will find in the shortest form of summary the results—definite results. More than 250,000 persons worked upon the public roads each day—a half of million volunteer days of labor in favor of a better agriculture resultant from better roads.

Counting the cash donated, free materials and implements, free use of cars and teams, together with all labor incident to the good roads days, there was fully one and one-half million dollars ($1,500,000) in improvements placed upon the public roads during those two days.

MISSOURI NOW A GOOD ROADS STATE.

Another result, not strictly definite but as true as gospel, is this: Good roads days have aroused the State pride as never before. Missouri has received the approving smile of every state and nation. Our people have become, more so than ever before, good roads boosters and good roads builders.

Formerly it was the town man who voted for good roads more than the farmer—today the farmer has marched ahead of the city and town folk in his love for passable roads.

The Missouri farmer is coming into his own, and today it is reasonable to predict that this State is going to push ahead and perfect its rightful claim to have all of our dirt roads passable all the year round.

As unanswerable proof that Missouri is now a good roads State it is only necessary to mention that during 1913 there was spent in this State in labor, materials and road improvements (including road bridges) nearly eight millions of dollars.

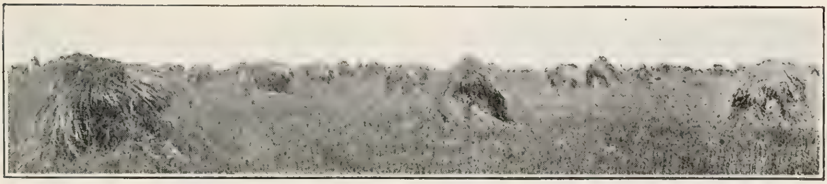
GOOD ROADS HOLIDAYS THIS YEAR.

The Governor has informally indicated that it is his present intention to issue a proclamation this year for two good roads days. He has not set the date, but is considering the naming of earlier holidays than the 20th and 21st of August, that the work done and materials used may give the larger measure of permanent results to the dirt roads of the commonwealth.

TWENTY-FIVE PER CENT BENEFIT OVER THE STATE.

During the two now historic days a vast amount of work was done on the Santa Fe trail, the Ozark trail, the northern route or Lewis and Clark trail, and other old trails. But especially was the work poured onto the cross-county seat highways by an unselfish local public in each county seeking to get certain roads into condition to pass State inspection to secure the $15 per mile allowable to such approved roads under the Painter State road dragging law. Eleven thousand miles of such roads are now approved and receiving $15 per mile from the automobile and corporation license fund of the State.

The work of good roads days, the sentiment stirred thereby, the better grade of road machinery installed, the new spirit of co-operation aroused as to roadmaking, the disposition of citizens and overseers to study and apply the new methods—these things have improved the highways of Missouri from 25 to 30 per cent. As Governor Major has well said, "The good roads day spirit is still alive, and we will continue to battle for good roads throughout the year of 1914 and thereafter. Good roads are the avenues over which must pass the triumphal march of industrial glory."



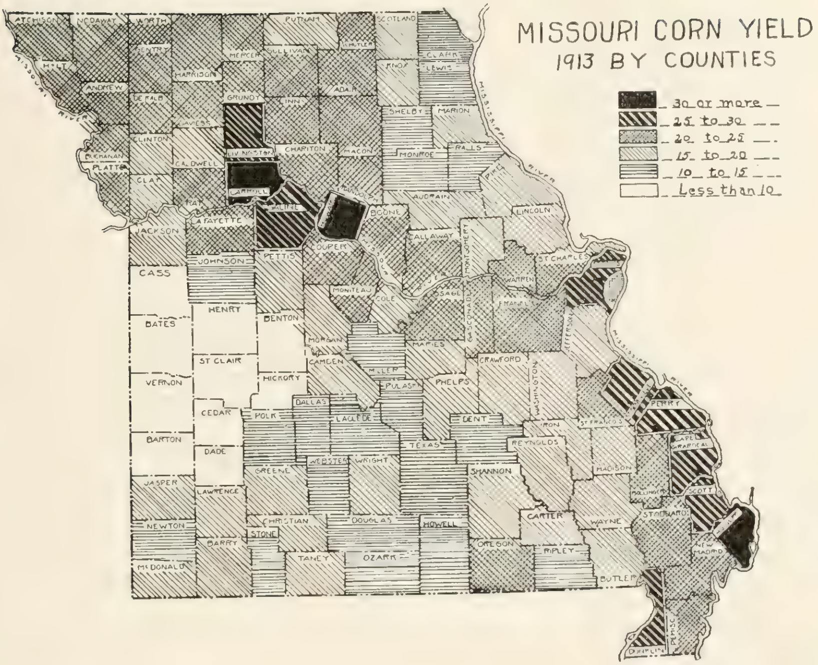
MISSOURI CROP REVIEW FOR 1913.

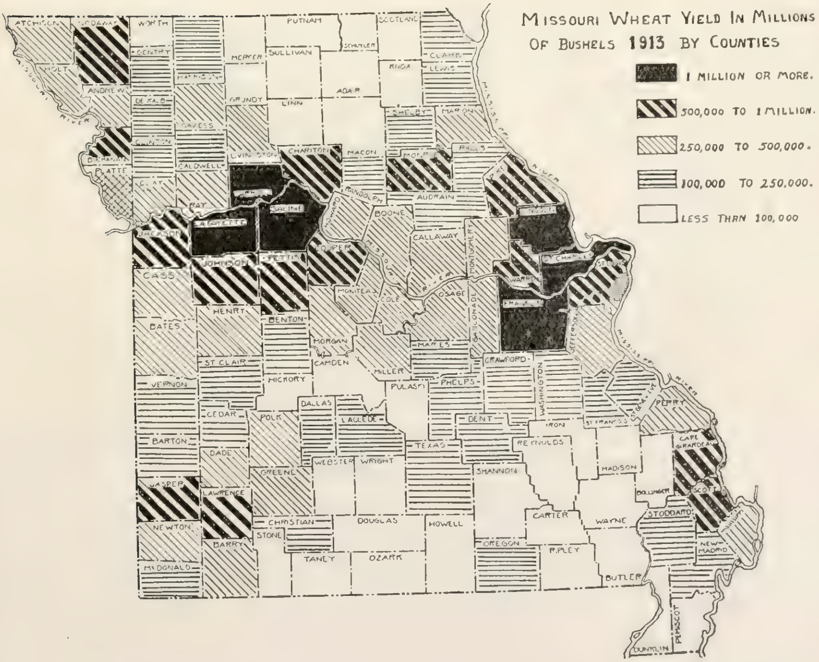
(By W. L. Nelson, Assistant Secretary, Missouri State Board of Agriculture. Reprinted from December, 1913, Bulletin.)

The total value of Missouri farm crops for the year 1913 is $175,787,126. This is according to estimates based upon reports made to the Missouri State Board of Agriculture by its more than 600 correspondents. In this estimate only the ordinary field crops and vegetables are included. No account is taken of live stock, wool, dairy products, poultry, orchard products and many other items that go to make up the wealth of the Missouri farmer. The figures are as follows:

Corn, 7,537,270 acres; 132,748,541 bushels; $97,169,769. Wheat, 2,020,330 acres; 35,390,833 bushels; $28,505,846. Oats, 656,182 acres; 14,949,532 bushels; $6,280,173. Prairie hay, 127,963 acres; 100,955 tons; $1,163,236. Tame hay and forage, 2,142,762 acres; 2,175,735 tons; $29,063,473. Flax, 9,341 acres; 48,573 bushels; $55,859. Rye, 7,510 acres; 106,642 bushels; $88,513. Buckwheat, 1,083 acres; 11,155 bushels; $10,932. Barley, 620 acres; 11,160 bushels; $8,928. Broom corn, 1,819 acres; 649,383 pounds; $35,662. Cotton, 51,432 acres; 15,429,600 pounds; $1,851,552. Potatoes, 31,252 acres; 1,156,324 bushels; $1,133,198. Tobacco, 3,518 acres; 1,861,022 pounds; $260,543. Sorghum seed, 12,461 acres; 168,223 bushels; $195,139. Sorghum syrup, 12,461 acres; 760,121 gallons; $448,471. Clover seed, 12,626 acres; 18,055 bushels; $158,342. Timothy seed, 5,769 acres; 16,153 bushels; $47,490. Kafir, millet, cowpeas, bluegrass and soy beans, etc., $5,100,000. Miscellaneous vegetables, $4,210,000.

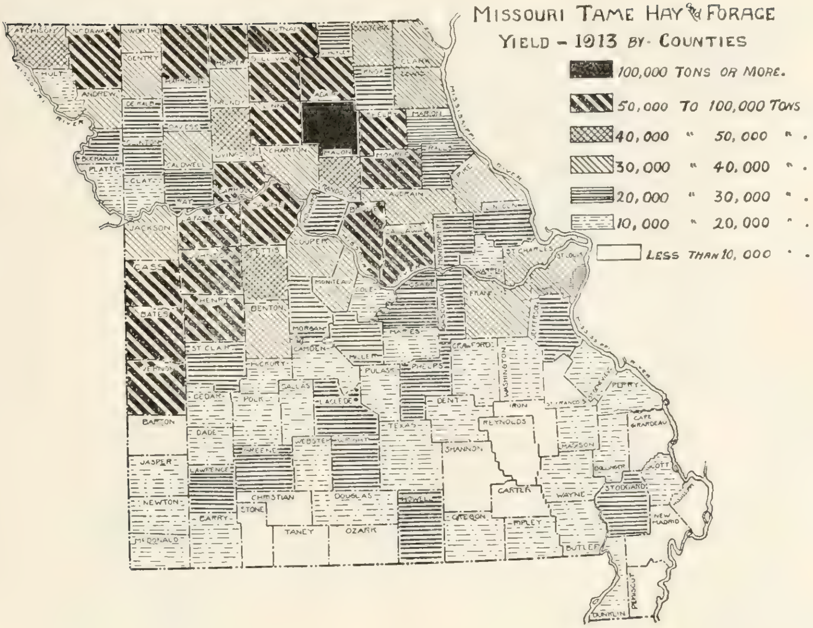
The total value of the 1913 crop is only about $12,000,000 less than was that of 1912, which was figured at $188,129,500. However, the yield of all crops except wheat and rye is lower. The loss in value would be greater but for the higher prices now prevailing. It should be understood though that mere figures do not make feed, and as practically all the corn, as well as some other crops, is fed on the farms the final value must be determined by the returns from live stock. Fortunately for the fertility of our farms and for the permanency of our agriculture, Missouri is not a grain selling state. With well-bred live stock of all kinds, we have found it profitable to market our corn and hay, most of our oats and much of our wheat "on foot."


MISSOURI CORN YIELD
1913 BY COUNTIES
30 or more
25 to 30
20 to 25
15 to 20
10 to 15
Less than 10
ATCHISON
NODAWAY
WORTH
PUTNAM
SCOTLAND
GENTRY
MERCER
SULLIVAN
SCHUYLER
CLARK
HOLT
HARRISON
KNOX
LEWIS
ANDREW
DE KALB
GRUNDY
LINN
ADAIR
SHELBY
MARION
DAVIESS
LIVINGSTON
CHARITON
MACON
MONROE
RALLS
CLINTON
CALDWELL
BUCHANAN
PLATTE
CLAY
CARROLL
RANDOLPH
AUDRAIN
PIKE
RAY
SALINE
BOONE
LINCOLN
LAFAYETTE
JACKSON
HOWARD
CALLAWAY
MONTGOMERY
COOPER
ST CHARLES
JOHNSON
PETTIS
WARREN
CASS
MONITEAU
COLE
OSAGE
FRANKLIN
HENRY
BENTON
GASCONADE
BATES
MORGAN
MARIES
JEFFERSON
ST CLAIR
CAMDEN
MILLER
CRAWFORD
VERNON
HICKORY
PULASKI
PHELPS
WASHINGTON
DALLAS
CEDAR
POLK
LACLEDE
DENT
IRON
ST FRANCOIS
PERRY
BARTON
DADE
TEXAS
REYNOLDS
CAPE GIRARDEAU
WEBSTER
WRIGHT
MADISON
GREENE
SHANNON
BOLLINGER
SCOTT
JASPER
LAWRENCE
CHRISTIAN
DOUGLAS
HOWELL
CARTER
WAYNE
STODDARD
NEWTON
STONE
MISSISSIPPI
BARRY
OREGON
NEW MADRID
TANEY
OZARK
RIPLEY
McDONALD
BUTLER
PEMISCOT
DUNKLIN
MISSOURI RIVER
MISSISSIPPI RIVER


MISSOURI WHEAT YIELD IN MILLIONS
OF BUSHELS 1913 BY COUNTIES
1 MILLION OR MORE.
500,000 TO 1 MILLION.
250,000 TO 500,000.
100,000 TO 250,000.
LESS THAN 100,000
ATCHISON
NODAWAY
WORTH
PUTNAM
SCOTLAND
GENTRY
MERCER
SULLIVAN
SCHUYLER
CLARK
HOLT
KNOX
LEWIS
ANDREW
HARRISON
DE KALB
GRUNDY
LINN
ADAIR
SHELBY
MARION
DAVIESS
CLINTON
LIVINGSTON
CHARITON
MACON
MONROE
RALLS
BUCHANAN
CALDWELL
PLATTE
CLAY
RANDOLPH
AUDRAIN
RAY
SALINE
HOWARD
BOONE
LAFAYETTE
JACKSON
CALLAWAY
MONTGOMERY
COOPER
ST CHARLES
JOHNSON
PETTIS
WARREN
CASS
MONITEAU
COLE
OSAGE
FRANKLIN
HENRY
BENTON
GASCONADE
BATES
MORGAN
MARIES
JEFFERSON
ST CLAIR
CAMDEN
MILLER
CRAWFORD
VERNON
HICKORY
PULASKI
PHELPS
WASHINGTON
DALLAS
CEDAR
POLK
LACLEDE
DENT
ST FRANCOIS
PERRY
BARTON
IRON
DADE
TEXAS
REYNOLDS
CAPE GIRARDEAU
WEBSTER
WRIGHT
MADISON
GREENE
SHANNON
BOLLINGER
SCOTT
JASPER
LAWRENCE
CHRISTIAN
DOUGLAS
HOWELL
CARTER
WAYNE
STODDARD
NEWTON
STONE
BARRY
OREGON
RIPLEY
NEW MADRID
TANEY
OZARK
McDONALD
BUTLER
PEMISCOT
DUNKLIN
MISSOURI RIVER
MISSISSIPPI RIVER

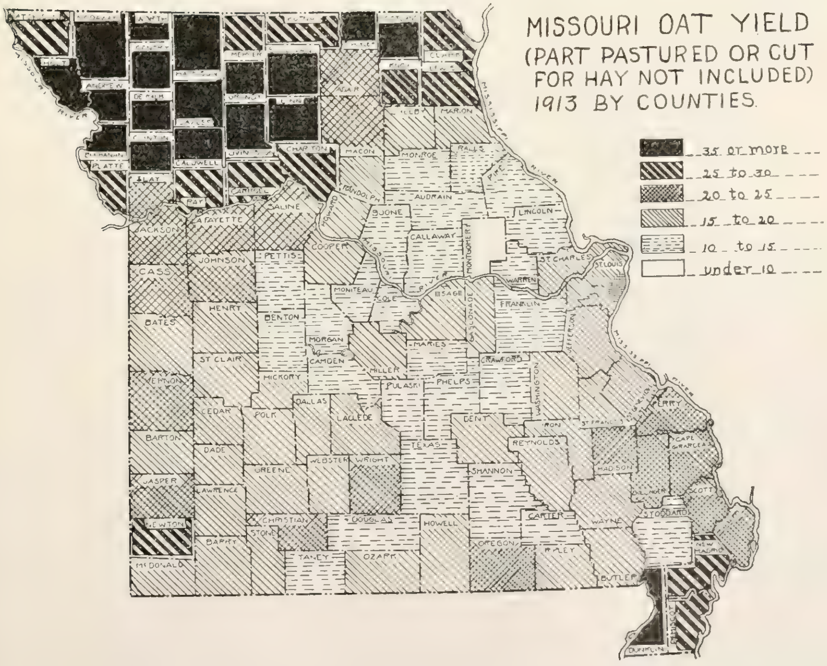
Corn—The 1913 corn crop of 132,748,541 bushels, while more than 100,000,000 bushels short of the 1912 crop of 243,042,951 bushels, is much larger than for some other unfavorable years. It is more than twice as large as was the crop of 1901, which amounted to but 61,667,000 bushels. According to the Government's preliminary estimate, it is more than five times as much as the Kansas crop of the present year, nearly three times that of Arkansas, and two and a half times that of Oklahoma. The yield for the entire State of Missouri is placed at 17.6 bushels per acre, as compared with 31.9 one year ago. By sections, the average yield is: Northeast, 17.2; northwest, 21.5; central, 19.3; southwest, 10.2; southeast, 17.6. Total yield, by sections, is: Northeast, 26,229,235 bushels; northwest, 44,537,794; central, 24,715,311; southwest, 17,571,439; southeast, 19,696,762. Counties having the highest estimated yield per acre are: Carroll, 30; Livingston, 28; Howard, 30; Saline, 26; Cape Girardeau, 28; Dunklin, 26; Mississippi, 30; Ste. Genevieve, 28, and Scott 27. Owing to the excessive heat and the lack of rainfall over much of the State during the latter part of the crop growing season, many of the best corn counties fell much below their average yield, while ten counties grew less than 10 bushels per acre. Counties growing more than 3,000,000 bushels of corn are: Atchison, 3,120,540; Carroll, 3,254,460; Livingston, 3,489,472; Nodaway, 3,449,000, and Saline 3,722,732. The average farm price of corn for the State is estimated at 73.1 cents per bushel. By sections the price shows: Northeast, 74.8 cents; northwest, 70.8 cents; central, 74.4 cents; southwest, 76.4 cents; southeast, 72.5 cents. Quality of corn is reported as 64 for the State, being highest in the northwest, where it is 69, and lowest in the southwest, where it is 55. It is estimated that 75 per cent of the crop has been gathered. Much of it went into shock or silo. The open weather that has prevailed has meant a great saving of feed and with an early spring there will be no serious corn shortage.

Wheat.—The Missouri wheat yield for 1913, as previously reported, was 35,390,800 bushels, being 13,844,113 bushels more than for the year 1912. The average yield on 2,020,330 acres was 17.5 bushels. The acreage seeded for the 1914 crop is seven per cent larger than for 1913, being 2,156,637 acres. The condition of the growing crop is 100 for the State. By sections, it is: Northeast, 97; northwest, 97; central, 103; southwest, 107; southeast, 100. It is, of course, understood that 100 as here used does not mean perfect, but indicates a most satisfactory condition. The



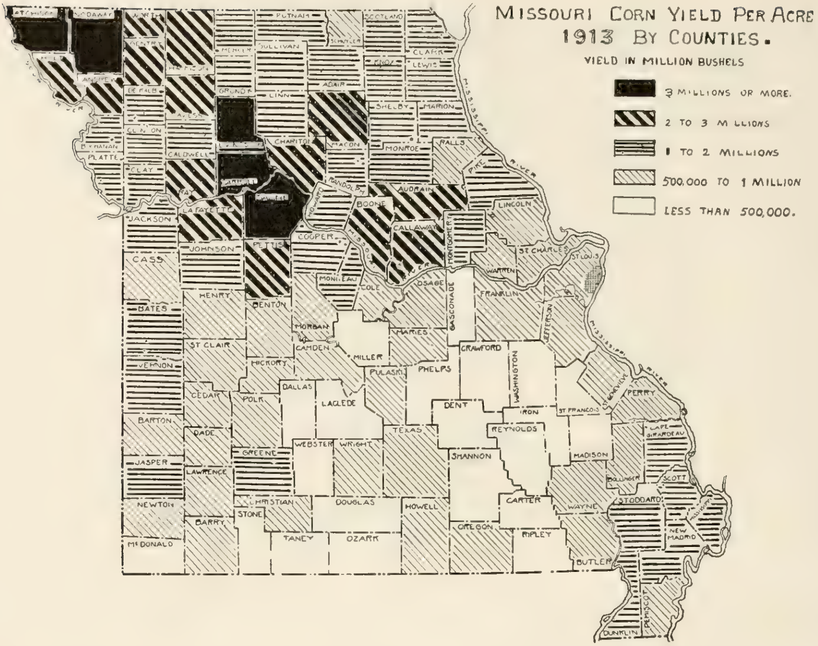
MISSOURI TAME HAY & FORAGE YIELD – 1913 BY COUNTIES

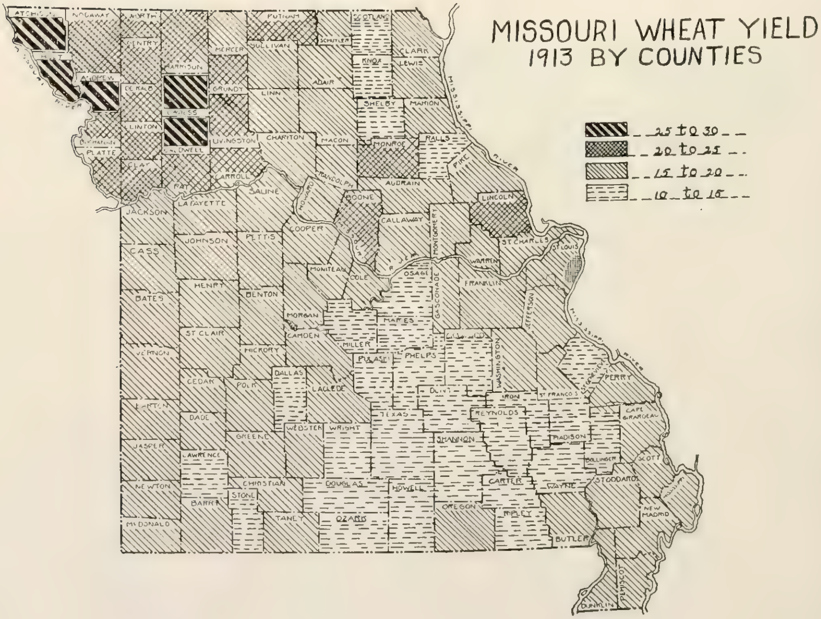
▩ 100,000 TONS OR MORE.
▨ 50,000 TO 100,000 TONS
▦ 40,000 " 50,000 " .
▧ 30,000 " 40,000 " .
▤ 20,000 " 30,000 " .
▤ 10,000 " 20,000 " .
☐ LESS THAN 10,000 " .
MISSOURI RIVER
MISSISSIPPI RIVER
ATCHISON
NODAWAY
WORTH
GENTRY
HOLT
ANDREW
HARRISON
MERCER
PUTNAM
SCHUYLER
CLARK
DE KALB
DAVIESS
GRUNDY
SULLIVAN
ADAIR
KNOX
LEWIS
BUCHANAN
CLINTON
CALDWELL
LIVINGSTON
LINN
MACON
SHELBY
MARION
PLATTE
CLAY
RAY
CARROLL
CHARITON
RANDOLPH
MONROE
RALLS
PIKE
AUDRAIN
LINCOLN
JACKSON
LAFAYETTE
SALINE
HOWARD
BOONE
CALLAWAY
MONTGOMERY
WARREN
ST CHARLES
ST LOUIS
CASS
JOHNSON
PETTIS
COOPER
MONITEAU
COLE
OSAGE
GASCONADE
FRANKLIN
JEFFERSON
BATES
HENRY
BENTON
MORGAN
MILLER
MARIES
CAMDEN
ST CLAIR
HICKORY
PULASKI
PHELPS
CRAWFORD
WASHINGTON
ST FRANCOIS
STE GENEVIEVE
PERRY
VERNON
CEDAR
POLK
DALLAS
LACLEDE
DENT
IRON
REYNOLDS
CAPE GIRARDEAU
BARTON
DADE
GREENE
WEBSTER
WRIGHT
TEXAS
SHANNON
MADISON
BOLLINGER
SCOTT
JASPER
LAWRENCE
CHRISTIAN
DOUGLAS
HOWELL
CARTER
WAYNE
STODDARD
MISSISSIPPI
NEWTON
STONE
BARRY
TANEY
OZARK
OREGON
RIPLEY
BUTLER
NEW MADRID
McDONALD
DUNKLIN
PEMISCOT



MISSOURI OAT YIELD (PART PASTURED OR CUT FOR HAY NOT INCLUDED) 1913 BY COUNTIES.

▩ 35 or more
▨ 25 to 30
▦ 20 to 25
▧ 15 to 20
▤ 10 to 15
☐ under 10
MISSOURI RIVER
MISSISSIPPI RIVER
ATCHISON
NODAWAY
WORTH
GENTRY
HOLT
ANDREW
HARRISON
MERCER
PUTNAM
SCHUYLER
CLARK
DE KALB
GRUNDY
SULLIVAN
ADAIR
KNOX
LEWIS
BUCHANAN
CLINTON
CALDWELL
LIVINGSTON
LINN
SHELBY
MARION
PLATTE
CLAY
RAY
CARROLL
CHARITON
MACON
MONROE
RALLS
PIKE
RANDOLPH
AUDRAIN
LINCOLN
JACKSON
LAFAYETTE
SALINE
HOWARD
BOONE
CALLAWAY
MONTGOMERY
WARREN
ST CHARLES
ST LOUIS
CASS
JOHNSON
PETTIS
COOPER
MONITEAU
COLE
OSAGE
GASCONADE
FRANKLIN
JEFFERSON
BATES
HENRY
BENTON
MORGAN
MILLER
MARIES
CAMDEN
ST CLAIR
HICKORY
PULASKI
PHELPS
CRAWFORD
WASHINGTON
ST FRANCOIS
STE GENEVIEVE
PERRY
VERNON
CEDAR
POLK
DALLAS
LACLEDE
DENT
IRON
REYNOLDS
CAPE GIRARDEAU
BARTON
DADE
GREENE
WEBSTER
WRIGHT
TEXAS
SHANNON
MADISON
BOLLINGER
SCOTT
JASPER
LAWRENCE
CHRISTIAN
DOUGLAS
HOWELL
CARTER
WAYNE
STODDARD
NEWTON
STONE
BARRY
TANEY
OZARK
OREGON
RIPLEY
BUTLER
NEW MADRID
McDONALD
DUNKLIN
PEMISCOT


MISSOURI CORN YIELD PER ACRE
1913 BY COUNTIES.
YIELD IN MILLION BUSHELS
3 MILLIONS OR MORE.
2 TO 3 MILLIONS
1 TO 2 MILLIONS
500,000 TO 1 MILLION
LESS THAN 500,000.
MISSISSIPPI RIVER
MISSOURI RIVER


MISSOURI WHEAT YIELD
1913 BY COUNTIES
25 to 30
20 to 25
15 to 20
10 to 15
MISSISSIPPI RIVER

present average farm price of wheat, as reported, is 84 cents per bushel.

Oats.—Of 891,489 acres estimated as having been seeded to oats in the spring of 1913, but 656,182 acres made sufficient growth to be cut and threshed in the usual way. The remainder of the crop was pastured or harvested as hay. The yield of the part of the crop threshed was 22.7 bushels per acre, as compared with 31.3 bushels for the entire crop of 1912. By sections, the yield for 1913 shows: Northeast, 21.2 bushels; northwest, 29.8; central, 15.6; southwest, 19.3; southeast, 17.5. The 1913 yield of threshed oats is estimated at 14,949,532 bushels, worth at the average State price of 42 cents per bushel, $6,280,173. This does not take into consideration the value of oats pastured or harvested as hay. The total oat crop of 1912 was 29,488,490 bushels, valued at $9,632,205. Owing to the open season and to the fact that many fields of oats were not harvested in the usual way, the growth of volunteer oats has in many places been sufficient to provide some fall pasture.

Tame Hay and Forage.—Tame hay and forage acreage harvested in 1913 is estimated at 2,142,762 acres. This is about 11 per cent less than in 1912, when it was 2,414,889 acres. The yield shows a much larger decrease, being but 2,175,735 tons as compared with 3,333,862 in 1912. The average estimated yield for the present year is approximately one ton (1.015) per acre for all cuttings combined. The yield in 1912 was 1.3 tons per acre. The value of the present crop, figured at $13.36 per ton, is $29,063,473.

Other Crops.—Almost without exception the unfavorable season of 1913 cut short the yield of all minor crops.

The prairie hay crop, harvested from 127,963 acres, amounted to 100,955 tons, valued at $1,163,236. The 1912 crop, harvested from 142,730 acres, amounted to 167,098 tons, valued at $1,400,700.

Flax shows a decrease of eight per cent in acreage; yield 5.2 bushels as compared with 7 bushels last year; price, $1.15 per bushel.

Rye acreage was one per cent larger than in 1912; yield, 14.2 bushels; price, 83 cents.

Buckwheat acreage was 10 per cent less than last year; yield, 10.3 bushels; price, 98 cents.

Barley acreage shows loss of 15 per cent; yield, 18 bushels; price, 80 cents.

Broom corn acreage is but little more than half—53 per cent—that of 1912. The yield is also less, being but 357 pounds as compared with 510 pounds last year. Price, $110 per ton, as compared with $79 last year.

Cotton acreage shows a loss of 14 per cent; yield, 300 pounds as compared with 424 last year. Price, 12 cents per pound.

Irish potato acreage was 39 per cent less than 1912; yield, 37 bushels as against 81 last year; price, 98 cents.

Tobacco acreage is decreased 32 per cent as compared with 1912; yield, 529 pounds as against 946 one year ago; price, 14 cents.

Sorghum syrup and seed show a decrease in acreage of 36 per cent. Yield of syrup, 61 gallons per acre; price, 59 cents; yield of seed, 13.5 bushels; price, $1.16.

Clover seed acreage was but 15 per cent short of that of 1912; yield, 1.43 bushels; price, $8.77.

Timothy seed acreage as compared with unusually large crop of 1912, was but 31 per cent; yield 2.8 bushels; price, $2.94.

The value of Kafir, millet, cowpeas, soy beans, bluegrass seed and other similar crops is estimated at $5,100,000 as compared with $4,440,000 in 1912. Miscellaneous vegetables are valued at $6,210,000. Last year the estimated value was $7,325,000.

SUMMARY OF MONTHLY CROP REPORTS.

Following are summaries of the monthly crop reports of the Missouri State Board of Agriculture for the year 1913:

April 5—The winter of 1912-13 was marked by no extremely cold weather. Spring finds the farmers in good cheer. There is no scarcity of feed and live stock has wintered well. For the month of March the average temperature was 40, the highest 75, and the lowest, 2 degrees. Total precipitation for the month was 4.95 inches. Many correspondents report prospect for wheat as good as they have ever known at this time of the year. There was practically no winterkilling and the plant has made a vigorous growth. Condition for the State is 96.6. By sections, condition is: Northeast, 94; northwest 99; central, 96; southwest, 96; southeast, 98. The seeding of oats has been somewhat delayed by unfavorable weather. It is estimated that but 23 per cent of the crop has been sown. By sections, the seeding shows: Northeast, 5 per cent; northwest, 5; central, 18; southwest, 43; southeast, 45. It is estimated that 32 per cent of the 1912 corn crop is still on farms. Condition of clover is placed at 92; acreage of new crop as compared with that of 1912, 95. Condition of timothy is 93; acreage, 101. Condition of rye, 95; barley, 87; alfalfa, 93. The fruit outlook is one of the best in the history of the State. The condition of the fruit crop generally is estimated at 95; peaches, 92. A general shortage in all classes of live stock is reported. Number of hogs on feed as compared with April 1, 1912, is estimated at 75 per cent; cattle, 74 per cent; brood sows, 85; pigs, 82. Reports are to the effect that there is now but 70 per cent as much cholera as existed one year ago.

May 3—Farm conditions throughout Missouri are favorable. The weather for the last half of April, while most too cool for the rapid growth of some crops, was ideal for pushing farm work. Average temperature for April as shown in Columbia, was 55 degrees; minimum, 33; maximum, 84. Rainfall, 3.39 inches. Correspondents report 48 per cent of corn land plowed. Soil condition is 91. Part of corn crop planted is estimated at 14 per cent. By sections it is: Northeast, 5; northwest, 4; central, 13; southwest, 33; southeast, 17. A preliminary estimate fixes the corn acreage about the same as last year, or around 7,611,000 acres. The condition of wheat is 98. Chinch bugs have appeared in a few western border counties. Wheat condition by sections shows: Northeast, 98; northwest, 103; central, 100; southwest, 98; southeast, 93. The oat crop has gone in late, it being estimated that only 96 per cent had been seeded by May 1. The acreage as compared with last year's crop of 940,000 acres is estimated at 97 per cent. Condition of clover is 97; timothy, 94; alfalfa, 94. It is estimated that 18 per cent of last year's hay crop is still on the farms. Preliminary figures on cotton crop show 95 per cent of the 1912 acreage. Pastures are the best for a number of years. The fruit outlook, except for Ben Davis and a few other varieties of apples is fine. Condition of general crop, 95; peaches, 94.

June 7—Missouri crop conditions are less favorable than a month ago. However, taking the State as a whole, the corn planting season was ideal. Highest temperature for the month, as recorded at Columbia, was 96; lowest, 39. Rainfall, 1.43 inches. Of the corn crop 91 per cent was planted by June 1. Soil condition is 88. Stand of corn is excellent, being placed at 93. Condition of growing crop is 87. Corn acreage is estimated at 101 per cent. Condition of wheat is 89. By sections condition shows: Northeast, 87; northwest, 95; central, 88; southwest, 90; southeast, 86. The loss for the month was 9 points. Abandoned acreage is estimated at not to exceed 1 per cent. Harvesting will begin earlier than usual. The outlook for oats is poor. Condition for the State is 68. By sections condition shows: Northeast, 71; northwest, 91; central, 54; southwest, 67; southeast, 58. Acreage, as compared with last year's crop, is estimated at 95. The clover crop is in fine shape, being 84 per cent for the State. Stand of new clover is 76; timothy is poor, the condition of the old crop being 67 and the stand of the new crop, 76. Alfalfa is reported at 92; condition of rye, 92; barley, 95; barley acreage, 83; pastures are not as good as a month ago, the condition being estimated at 80. Tobacco acreage is estimated at 88; cotton, 91; flax, 92; potatoes, 97. Correspondents report but 35 per cent as much hog cholera as three months ago. The wool clip is estimated at 6.8 pounds per fleece, average selling price, 17.5 cents. The outlook for the apple crop is materially lessened, being 73 at this time. The peach prospect continues to be the best, and an immense yield is promised. Berries and small fruit are plentiful, correspondents reporting 88 per cent.

July 5—Highest temperature for the month of June was 98; lowest, 43; total rainfall, 2.40 inches. Practically all of central and southern Missouri is in need of rain. The northwestern part of the State has had sufficient rainfall for present needs. Parts of Southeast Missouri are suffering for rain, and the same is true of a group of Ozark counties, and parts of Bates, Cass and Vernon. Corn has been well cultivated and the condition on July 1 was 86. By sections condition shows: Northeast, 88; northwest, 92; central, 85; southwest, 82; southeast, 82. The stand was never better. Soil condition is 95. Estimated damage from dry weather is 15. The wheat crop has gone into shock in almost perfect shape. There was practically no abandoned acreage and no loss from wind or flood. On July 1, 86 per cent of the crop has been harvested. The condition of the stand of wheat on July 1 was 88. The preliminary estimate as to yield is 16.1 bushels per acre. By sections the estimate shows: Northeast, 16.5 bushels; northwest, 21; central, 15.2; southwest, 14.3; southeast, 13.6. But 4.69 per cent of new crop is reported threshed, but both yield and quality are better than anticipated. The quality is placed at 96. The average local price for the State is 81 cents per bushel. In many parts of northern Missouri the oat crop is good, but taking the State as a whole, the condition is only 56.4. By sections it is: Northeast, 62; northwest, 80; central, 40; southwest, 58; southeast, 42. It is estimated that 65 per cent of the State oat crop will be tall enough to cut with binder. Some oats has been pastured, while others is being cut for hay. Timothy meadows are thin, short and weedy; condition, 50. Early estimate of yield per acre is .66 tons; acreage, 88; quality of hay, 77. Clover was of fine quality, and the first cutting a good yield. The hay was saved in almost perfect condition. Condition of the crop is 80. Estimated yield per acre of first cutting, 1.11 tons; quality, 92; acreage, 99; alfalfa condition is 89; estimated yield per acre first cutting, 1.28 tons; quality, 98; acreage, 102. Pastures are poor, the condition for the State being 61. Cotton acreage is placed at 90 per cent, condition 83; flax acreage, 90, condition, 84; tobacco acreage, 82, condition, 75; broom corn acreage, 87, condition, 82; estimated acreage of cowpeas, 102. The potato crop has been cut short by dry weather, the general condition being 66. The apple crop will fall short of early prospects; condition is 62; peaches, 86.

August 2—The great need of at least three-fourths of the State is a general rain. To do much good this must come at once. Only 16 per cent of our correspondents report sufficient rainfall during July, and of these most are from northwestern Missouri. At Columbia the rainfall for the month was 3.38 inches; highest temperature, 100; lowest, 59. Condition of corn throughout the State is 78.8 by sections. By sections it is: Northeast, 70; northwest, 84; central, 69; southwest, 56; southeast, 75. The drouth is especially severe in a number of southwestern and southcentral counties. With estimates showing 63 per cent of wheat crop threshed, indications are for an average State yield of 17.2 bushels. This may be increased by later returns from the thresher. Many yields of 40 bushels or better are reported. The probability is that the crop for the year will be something like 15,000,000 bushels better than for 1912. Estimates show 6 per cent of the ground plowed for new crop. Correspondents report 60 to 70 per cent of oat crop cut with binders. Estimates as to yield per acre of part threshed show: Northeast, 22; northwest, 31; central, 16; southwest, 23; southeast, 19. State average, 22 bushels. The oat crop in the northwest section was good, some fields making from 50 to 60 bushels. Pastures are very poor, being brown and bare, with condition for the State at 49. Some farmers have commenced to feed milch cows and other stock. Yield of timothy hay is placed at 0.7 tons per acre; mixed hay, 0.9. These are preliminary estimates. Prairie hay will probably not exceed 0.5 tons per acre. Acreage of mixed hay as compared with last year is 84 per cent; prairie hay is estimated at 89 per cent. About one-third of hay crop is being baled. The condition of apples has fallen to 52; peaches show a condition of 74. The commercial peach crop of southern Missouri is one of the best ever known. Condition of broom corn is 73; flax, 64; melons, 63; tobacco, 66; cotton, 84, and cowpeas, 80.

September 6—August was an unfavorable month for Missouri farmers. At Columbia the rainfall for the month was but .77 of an inch. The highest temperature was 105 degrees, but on eleven days during the month it was 100 or more. Corn condition is 41.8, a loss of 29 points for the State. Condition by sections shows: Northeast, 43; northwest, 45; central, 41; southwest, 34; southeast, 46. Even in the northwestern section where heat and drouth did comparatively little damage early in the season, the crop suffered greatly during August. There is much good corn in river bottoms and on low land. North of the Missouri river the greatest lack of rain has been in Audrain and other northeastern counties. It is estimated that 20 per cent of the corn crop of the State has been cut, and that 40 per cent more will go into shock. More silos than ever before have been or will be filled. Dry weather has held back plowing for wheat, only 30 per cent of the ground having been plowed. Estimates for the new crop place the acreage at 89 per cent, but with sufficient rainfall and a favorable season for seeding, this acreage may be greatly increased. Yield of timothy seed will be very light and acreage only 41 per cent of normal. Yield of rye is placed at 14.2 bushels; buckwheat, 10.3; barley, 18; flax, 6, but final figures may differ. Condition of cotton is 67; tobacco, 52, and cowpeas, 53. Water for live stock is now a serious matter, 88 per cent of correspondents reporting a shortage. The condition of pastures has fallen to 25 per cent. It is estimated that 30 per cent of farmers are now feeding new corn. Number of hogs on feed as compared with one year ago is placed at 58 per cent; number of spring pigs on farms, 75 per cent; number of sows for fall farrow, 72 per cent; number of cattle on feed, 54 per cent; number of stock cattle on farms, 73 per cent. It is estimated that 24 per cent of the cattle have been disposed of owing to drouth.

September 27—This is the report ordinarily issued on the first Saturday in October. One of the worst drouths for many years has been broken by a general rain. However, more rain is needed. Rainfall at Columbia since September 1 has been 3.68 inches. Highest temperature for month was 103; lowest, 27, on the morning of the 22nd, when a light frost was reported in low places. The condition of corn is 52 for the State. Present condition by sections show: Northeast, 53; northwest, 55; central, 52; southwest, 43; southeast, 57. Quality of corn is poor, being but 62. It is estimated that 92 per cent of the crop is safe from frost. A preliminary estimate as to yield places it at 17.5 bushels, with sectional yields as follows: Northeast, 18.6; northwest, 20; central, 18; southwest, 10.9; southeast, 19.9. This would indicate a probable yield of approximately 133,000,000 bushels. Estimated price of corn is 73 cents. Wheat sowing has gone forward rapidly. Soil condition is 89. It is estimated that 42 per cent of the crop will be in by October 1. Acreage to be seeded is estimated at 92.6. Acreage of timothy threshed for seed is 31 as compared with last year, the State yield 2.8 bushels per acre. The average price is $2.98. Condition of pastures, 41; grass has made a fine start since the rains. Condition of tobacco is 61; cotton, 54; cowpeas, 60. Much rye is being sown for fall pasture. The stock water shortage has been generally relieved.

November 15—On this date a special wheat and live stock report was issued. The wheat report is incorporated in the body of this bulletin. That part of the crop devoted to live stock is as follows: Missouri farms show a shortage of all meat animals, but this scarcity of stock will go far toward relieving conditions brought about by a scant supply of feed. Seventy-one per cent of the crop correspondents report sufficient corn and other feed to carry stock through an ordinary winter. Bluegrass, in the opinion of most correspondents, was not permanently injured by the heat and drouth of the summer. The condition of pastures throughout the State is 76. There is now an abundance of stock water.

Hogs are scarce. As compared with an average year, the number of fat hogs or hogs on feed shows 67 per cent; brood sows, 73 per cent; fall pigs, 70 per cent. As compared with one year ago, fat hogs or hogs on feed are 72 per cent; brood sows, 76 per cent; fall pigs, 74 per cent. The cholera situation is not as bad as it was a year ago. It is estimated that the prevalence of the disease is but 40 per cent as compared with that time. Recent fluctuations in the market, coupled with the high price of corn, have caused many farmers to dispose of hogs which under more favorable conditions would have been given a longer feed. These same conditions have also sent a large number of brood sows to the fattening pen or to market.

The number of cattle on feed, as compared with an average year, is 55 per cent; stocker or feeder stuff, 68 per cent; breeding cows, 79 per cent. As compared with cattle on farms one year ago, percentage shows: Fat cattle, 62; stocker or feeder stuff, 71; breeding cows, 78.

Sheep also show a shortage. An estimate places them at 75 per cent as compared with number on farms for average year.

In feeding, much corn will be supplemented by millstuffs, meal, "cake," mixed feeds and other similar products. It is estimated that the use of these feeds will show an increase of 40 per cent over a year ago, and 75 per cent over five years ago.

Stock that was sold on account of feed or water shortage brought good prices, and in most instances the best has been retained. Owing to the high price of corn, many farmers who ordinarily feed cattle will not do so now. Most all stock is going into the winter in good shape.

December 13—The December report is included in the body of this bulletin.

Growing Watermelons in Southeast Missouri.

WHEAT AND OATS.

Table giving acreage, average yield per acre, and total product of wheat and oats, by counties, for the year 1913:

County.	Wheat.			Oats.		
	Acreage.	Average yield per acre, bushels.	Total yield per county, bushels.	Acreage harvested and threshed.	Average yield per acre, bushels.	Total yield per county, bushels.
State						
County.						
Adair	1,113	16	17,808	10,596	24	254,304
Audrain	9,645	14	135,030	12,531	11	137,841
Andrew	11,631	26	302,406	6,102	30	183,060
Atchison	12,046	25	301,150	17,564	29	509,356
Barry	26,839	15	402,585	4,351	18	78,318
Barton	9,694	17	164,798	5,410	17	91,970
Bates	24,844	19	472,036	10,192	17	173,260
Benton	12,406	17	210,902	4,221	11	46,431
Bollinger	7,824	11	86,064	1,292	21	27,132
Boone	22,695	20	453,900	10,781	12	129,372
Buchanan	29,355	21	616,455	5,137	32	164,384
Butler	1,066	15	15,990	163	15	2,445
Caldwell	5,927	23	136,321	14,542	32	465,344
Callaway	28,910	17	491,470	4,628	10	46,280
Camden	4,801	15	72,015	99	12	1,188
Cape Girardeau	33,261	16	532,176	4,022	20	80,440
Carroll	67,140	20	1,342,800	12,123	25	303,075
Carter	556	12	6,672	170	11	1,870
Cass	19,253	16	318,048	13,312	20	266,240
Cedar	11,656	16	186,496	2,685	18	48,330
Chariton	32,470	16	519,520	10,805	28	302,540
Christian	14,546	16	232,736	4,028	22	88,616
Clark	11,303	19	214,757	19,934	26	518,284
Clay	13,854	21	290,934	5,090	21	106,890
Clinton	7,419	20	148,380	16,184	35	566,440
Cole	21,024	16	336,384	1,572	10	15,720
Cooper	42,850	18	771,300	7,547	15	113,205
Crawford	9,680	14	135,520	272	14	3,808
Dade	17,598	17	299,166	3,424	18	61,632
Dallas	9,535	13	123,955	1,316	15	19,740
Daviess	10,830	26	281,580	11,489	32	367,648
DeKalb	8,908	21	187,068	11,684	34	397,256
Dent	9,822	12	117,864	180	18	3,240
Douglas	5,889	12	70,668	315	12	3,780
Dunklin	1,594	16	25,504	472	30	14,160
Franklin	70,926	15	1,063,890	2,493	14	34,902

WHEAT AND OATS—Continued.

County.	Wheat.			Oats.		
	Acreage.	Average yield per acre, bushels.	Total yield per county, bushels.	Acreage harvested and threshed.	Average yield per acre, bushels.	Total yield per county, bushels.
Gasconade	28,671	15	430,065	540	15	8,100
Gentry	6,320	21	132,720	7,163	32	229,216
Greene	27,145	18	488,610	6,077	20	121,540
Grundy	3,397	22	74,734	6,492	32	207,744
Harrison	7,633	23	175,559	16,033	31	497,023
Henry	15,176	17	257,992	13,953	17	237,201
Hickory	6,074	16	97,184	18,146	15	272,190
Holt	14,388	26	374,088	9,416	32	301,312
Howard	26,172	17	444,924	3,090	18	55,620
Howell	3,972	12	47,664	1,073	15	16,095
Iron	2,029	13	26,377	255	17	4,335
Jackson	29,950	19	569,050	9,846	21	206,766
Jasper	42,219	21	886,599	10,340	24	248,160
Jefferson	27,432	16	438,912	594	15	8,910
Johnson	29,903	17	508,351	11,308	22	248,776
Knox	1,491	14	20,874	19,420	26	504,920
Laclede	8,607	15	129,105	808	15	12,120
Lafayette	55,739	21	1,170,519	6,111	20	122,220
Lawrence	46,682	14	653,548	6,327	18	113,886
Lewis	12,121	15	181,815	18,339	20	366,780
Lincoln	55,755	20	1,115,100	3,832	10	38,320
Linn	4,525	19	85,975	10,045	33	331,485
Livingston	14,381	22	316,382	10,940	34	371,960
McDonald	8,960	17	152,320	2,632	18	47,376
Macon	5,033	17	85,561	13,223	22	290,906
Madison	4,620	13	60,060	271	21	5,691
Maries	13,090	12	157,080	266	12	3,192
Marion	22,140	17	376,380	5,662	15	84,930
Mercer	3,816	17	64,872	4,275	29	123,975
Miller	20,395	14	285,530	789	16	12,624
Mississippi	20,492	15	307,380	99	21	2,079
Moniteau	24,124	16	385,984	4,056	10	40,560
Monroe	28,204	20	564,080	14,272	14	199,808
Montgomery	24,713	16	395,408	5,214	8	41,712
Morgan	18,106	18	325,908	1,526	11	16,786
New Madrid	12,850	18	231,300	72	28	2,016
Newton	28,278	17	480,726	6,472	25	161,800
Nodaway	24,442	24	586,608	22,259	31	690,029
Oregon	7,587	15	113,805	533	20	10,660
Osage	28,064	14	392,896	900	15	13,500
Ozark	5,490	12	65,880	1,160	19	22,040
Pemiscot	4,427	19	84,113	51	25	1,275
Perry	21,973	17	373,541	1,554	20	31,080
Pettis	31,678	19	601,882	7,216	12	86,592

WHEAT AND OATS—Continued.

County.	Wheat.			Oats.		
	Acreage.	Average yield per acre, bushels.	Total yield per county, bushels.	Acreage harvested and threshed.	Average yield per acre, bushels.	Total yield per county, bushels.
Phelps	9,747	13	126,711	233	14	3,262
Pike	33,592	17	571,064	5,762	10	57,620
Platte	45,530	20	910,600	5,987	25	149,675
Polk	16,222	16	259,552	4,848	15	72,720
Pulaski	3,353	13	43,589	193	11	2,123
Putnam	1,863	20	37,260	9,018	25	225,450
Ralls	14,354	12	172,248	6,708	10	67,080
Randolph	6,655	17	113,135	9,516	17	161,772
Ray	22,935	20	458,700	10,462	25	261,550
Reynolds	926	14	12,964	190	16	3,040
Ripley	1,749	12	20,988	758	16	12,128
St. Charles	77,422	17	1,316,174	970	15	14,550
St. Clair	8,373	16	133,968	4,509	17	76,653
Ste. Genevieve	17,257	14	241,598	1,253	18	22,554
St. Francois	8,552	15	128,280	1,030	17	17,510
St. Louis	50,049	18	900,882	474	16	7,584
Saline	70,701	19	1,343,319	3,922	20	78,440
Schuyler	3,877	18	69,786	6,618	30	198,540
Scotland	2,540	14	35,560	14,802	32	473,664
Scott	42,711	16	683,376	539	23	12,397
Shannon	1,698	12	20,376	178	12	2,136
Shelby	10,038	16	160,608	16,871	15	253,065
Stoddard	14,379	16	230,064	2,250	14	31,500
Stone	3,424	14	47,936	2,243	15	33,645
Sullivan	788	18	14,184	6,409	32	205,088
Taney	4,586	15	68,790	1,025	14	14,350
Texas	15,277	14	213,878	244	12	2,928
Vernon	9,047	16	144,752	7,961	21	167,181
Warren	33,990	19	645,810	1,387	12	16,644
Washington	11,885	15	178,275	553	16	8,848
Wayne	3,082	13	40,066	417	16	6,672
Webster	6,374	15	95,610	2,444	18	43,992
Worth	3,698	21	77,658	6,472	30	194,160
Wright	5,482	13	71,266	460	20	9,200

CORN, TAME HAY AND FORAGE.

Table giving acreage, average yield per acre, and total product of corn and hay and forage, by counties, for the year 1913:

County.	Corn.			Tame hay and forage.	
	Acres planted.	Average yield per acre, bushels.	Total yield per county, bushels.	Acres.	Total yield per county, tons.
State	7,537,270	17.6	132,748,541	2,142,762	2,175,735
County.					
Adair	76,428	21	1,604,988	43,878	52,654
Audrain	142,145	16	2,274,320	20,246	14,172
Andrew	111,008	22	2,442,176	24,018	33,625
Atchison	156,027	20	3,120,540	26,857	40,286
Barry	47,425	17	806,225	11,657	9,326
Barton	101,680	8	813,440	5,187	4,668
Bates	162,067	7	1,134,469	43,527	30,469
Benton	72,050	9	648,450	14,660	5,864
Bollinger	28,612	23	658,076	14,227	13,035
Boone	103,532	23	2,381,236	22,061	17,649
Buchanan	64,603	22	1,421,266	14,039	22,462
Butler	30,915	19	587,385	9,171	8,254
Caldwell	99,795	17	1,696,515	20,216	26,281
Callaway	119,264	20	2,385,280	31,756	19,054
Camden	32,248	16	515,968	12,008	9,006
Cape Girardeau	45,765	28	1,281,420	4,011	5,014
Carroll	108,482	30	3,254,460	36,548	40,203
Carter	9,027	17	153,459	3,266	1,796
Cass	138,081	6	828,486	39,514	35,563
Cedar	66,536	8	532,288	11,225	7,858
Chariton	104,041	22	2,288,902	24,747	27,222
Christian	41,440	16	663,040	5,546	3,882
Clark	94,891	14	1,328,474	34,129	42,661
Clay	77,764	18	1,399,752	9,018	15,331
Clinton	93,239	17	1,585,063	19,485	23,382
Cole	29,365	19	557,935	9,319	7,355
Cooper	79,986	23	1,839,678	16,560	15,732
Crawford	25,694	16	411,104	11,965	5,983
Dade	77,505	9	697,545	7,273	5,818
Dallas	41,098	12	493,176	8,959	7,167
Daviess	121,571	21	2,552,991	21,545	32,318
DeKalb	83,414	15	1,251,210	19,978	27,969
Dent	19,029	14	266,406	8,093	4,047
Douglas	42,152	11	463,672	10,172	5,086
Dunklin	52,367	26	1,361,542	8,282	9,938
Franklin	54,351	18	978,318	22,315	20,084
Gasconade	23,600	21	495,600	11,558	9,824
Gentry	99,380	21	2,086,980	32,276	41,959

CORN, TAME HAY AND FORAGE—Continued.

County.	Corn.			Tame hay and forage.	
	Acres planted.	Average yield per acre, bushels.	Total yield per county, bushels.	Acres.	Total yield per county, tons.
Greene	75,522	18	1,359,396	14,338	14,338
Grundy	77,531	24	1,860,744	32,630	40,788
Harrison	136,137	22	2,995,014	45,831	59,580
Henry	134,704	7	942,928	19,034	9,517
Hickory	30,768	8	246,144	9,605	5,763
Holt	104,370	21	2,191,770	11,355	14,194
Howard	54,494	30	1,634,820	12,179	19,486
Howell	46,597	13	605,761	20,522	10,261
Iron	13,478	15	202,170	5,388	4,310
Jackson	76,608	16	1,225,728	20,670	28,938
Jasper	82,330	15	1,234,959	9,226	9,226
Jefferson	33,715	19	640,585	12,399	9,299
Johnson	138,230	12	1,658,760	42,972	34,378
Knox	76,743	17	1,304,631	26,841	29,525
Laclede	42,920	11	472,120	12,584	7,550
Lafayette	94,020	23	2,162,460	23,759	30,887
Lawrence	53,077	18	955,386	10,981	8,236
Lewis	71,795	14	1,005,130	30,058	39,075
Lincoln	48,569	15	728,535	12,451	9,338
Linn	81,930	23	1,884,390	67,177	73,895
Livingston	124,624	28	3,489,472	30,136	42,190
McDonald	29,648	15	444,720	7,461	6,715
Macon	121,283	18	2,183,094	71,443	85,732
Madison	18,758	16	300,128	5,143	3,857
Maries	25,574	14	358,036	8,905	8,015
Marion	56,705	19	1,077,395	16,122	12,092
Mercer	69,810	22	1,535,820	51,299	66,689
Miller	38,086	13	495,118	20,937	14,656
Mississippi	44,551	30	1,336,530	4,885	5,862
Moniteau	52,825	20	1,056,500	16,962	11,873
Monroe	116,434	14	1,630,076	34,222	20,533
Montgomery	64,062	19	1,217,178	9,762	6,345
Morgan	43,461	17	738,837	12,975	10,380
New Madrid	60,954	21	1,280,034	5,350	4,815
Newton	63,026	10	630,260	6,604	6,604
Nodaway	156,773	22	3,449,006	49,965	74,948
Oregon	32,404	21	680,484	8,089	4,045
Osage	29,049	24	697,176	9,444	8,500
Ozark	23,527	10	235,270	6,091	3,959
Pemiscot	28,728	20	574,560	2,450	2,695
Perry	32,858	25	821,450	8,620	7,758
Pettis	124,764	17	2,120,988	21,139	21,139
Phelps	28,252	15	423,780	21,356	12,814
Pike	85,129	19	1,617,451	17,469	11,355

CORN, TAME HAY AND FORAGE—Continued.

County.	Corn.			Tame hay and forage.	
	Acres planted.	Average yield per acre, bushels.	Total yield per county, bushels.	Acres.	Total yield per county, tons.
Platte	60,604	23	1,393,892	12,385	21,055
Polk	84,024	10	840,240	9,440	7,080
Pulaski	25,473	14	356,622	8,834	5,742
Putnam	62,073	19	1,179,387	69,279	69,279
Ralls	62,874	12	754,488	14,733	7,367
Randolph	55,731	23	1,281,813	25,572	29,664
Ray	108,842	23	2,503,366	23,041	29,953
Reynolds	18,192	18	327,456	5,508	3,029
Ripley	22,003	14	308,042	10,365	7,774
St. Charles	44,708	22	983,576	18,147	15,425
St. Clair	84,264	6	505,584	12,108	6,054
St. Francois	15,329	21	321,909	4,868	3,164
Ste. Genevieve	20,617	26	536,042	4,845	4,361
St. Louis	37,982	25	949,550	15,660	15,660
Saline	143,182	26	3,722,732	28,507	42,761
Schuyler	41,802	20	836,040	23,933	26,326
Scotland	72,257	15	1,083,855	24,133	36,200
Scott	43,831	27	1,183,437	8,152	8,152
Shannon	17,955	15	269,325	7,501	4,501
Shelby	97,898	14	1,370,572	31,953	22,367
Stoddard	57,989	24	1,391,736	18,239	18,239
Stone	27,742	13	360,646	3,924	3,532
Sullivan	78,699	20	1,573,980	69,798	90,737
Taney	20,816	13	270,608	4,901	2,941
Texas	51,673	13	671,749	12,331	6,166
Vernon	156,796	8	1,254,368	29,069	23,255
Warren	28,175	21	591,675	5,882	4,706
Washington	25,208	18	453,744	7,071	3,536
Wayne	34,040	19	646,760	10,485	7,340
Webster	32,593	11	358,523	9,087	6,815
Worth	43,789	21	919,569	18,268	27,402
Wright	38,709	15	580,635	18,622	13,035

SUMMARY OF THE ACREAGE, YIELD AND VALUE OF FARM CROPS FOR THE YEAR 1913 FOR THE STATE AND BY SECTIONS:

CORN.

Section.	Acres planted.	Average yield per acre, bushels.	Total yield, bushels.	Total value.
Northeast	1,524,600	17.2	26,229,235	$19,414,361
Northwest	2,068,391	21.5	44,537,794	31,543,897
Central	1,276,163	19.3	24,715,311	18,404,852
Southwest	1,721,894	10.2	17,571,439	13,426,584
Southeast	946,222	20.7	19,694,762	14,280,075
State	7,537,270	17.6	132,748,541	$97,169,769

WHEAT.

Section.	Acres harvested.	Average yield per acre, bushels.	Total yield, bushels.	Total value.
Northeast	354,507	17.5	6,215,482	$5,082,563
Northwest	399,339	21.3	8,518,581	6,788,313
Central	441,457	16.8	7,426,693	5,920,043
Southwest	387,680	16.6	6,462,433	5,278,424
Southeast	440,347	15.4	6,767,644	5,436,503
State	2,020,330	17.5	35,390,833	$28,505,846

OATS.

Section.	Acres sown.	Acreage harvested with binder and threshed.	Average yield per acre, bushels, part cut and threshed.	Total yield, bushels, threshed.	Total value.
Northeast	291,413	201,713	21.2	4,280,991	$1,725,361
Northwest	230,623	215,371	29.8	6,419,083	2,610,073
Central	130,588	91,630	15.6	1,433,257	633,976
Southwest	180,645	125,476	19.3	2,430,666	1,122,484
Southeast	58,220	21,992	17.5	385,535	188,279
State	891,489	656,182	22.7	14,949,532	$6,280,173

TAME HAY AND FORAGE.

Section.	Acres harvested.	Average yield per acre, tons.	Total yield, tons.	Total value.
Northeast	641,656	1.04	669,784	$7,933,675
Northwest	543,319	1.36	740,440	8,665,654
Central	349,069	.88	307,392	4,691,488
Southwest	337,959	.725	245,320	3,982,414
Southeast	270,759	.785	212,799	3,790,242
State	2,142,762	1.015	2,175,735	$29,063,473

PRAIRIE HAY.

Section.	Acres harvested.	Average yield per acre, tons.	Total yield, tons.	Total value.
Northeast	18,275	1.1	20,102	$180,918
Northwest	28,619	1.1	31,481	322,680
Central	7,594	.74	5,620	75,870
Southwest	71,393	.6	42,836	571,860
Southeast	2,082	.44	916	11,908
State	127,963	.78	100,955	$1,163,236

WHEAT SEEDED, FALL, 1913.

Section.	Acreage sown, 1913.	Acreage compared with previous year, per cent.	Average condition, crop, Dec. 1, 1913.
Northeast	378,435	107	97
Northwest	394,101	98.7	97
Central	482,218	109	103
Southwest	453,736	117	107
Southeast	448,147	100.2	100
State	2,156,637	107	101

SUMMARY OF TOTAL YIELD AND VALUE OF FARM CROPS PRODUCED BY MISSOURI FARMERS IN THE YEAR 1913.

	Acreage.	Yield.	Value.
Corn	7,537,270	132,748,541	$97,169,769
Wheat	2,020,330	35,390,833	28,505,846
Oats	656,182	14,949,532	6,280,173
Tame hay and forage	2,142,762	2,175,735	29,063,473
Prairie hay	127,963	100,955	1,163,236
Flax	9,341	48,573	55,859
Rye	7,510	106,642	88,513
Buckwheat	1,083	11,155	10,932
Barley	620	11,160	8,928
Broom corn	1,819	649,383	35,662
Cotton	51,432	15,429,600	1,851,552
Potatoes	31,252	1,156,324	1,133,198
Tobacco	3,518	1,861,022	260,543
Sorghum seed	12,461	168,223	195,139
Sorghum syrup	12,461	760,121	448,471
Clover seed	12,626	18,055	158,342
Timothy seed	5,769	16,153	47,490
Kafir corn, millet, cowpeas, castor beans, etc.			5,100,000
Miscellaneous vegetables			4,210,000
Total value of all crops			$175,787,126

CROP YIELD, 1913.

Average per acre by Crop Section.

Crop.	N. E. Sec., 20 counties.	N. W. Sec., 21 counties.	Cent. Sec., 21 counties.	S. W. Sec., 23 counties.	S. E. Sec., 29 counties.	State, 114 counties.
Corn, bushels	17.2	21.5	19.3	10.2	20.7	17.6
Wheat, bushels	17.5	21.3	16.8	16.6	15.4	17.5
*Oats, bushels	21.2	29.8	15.6	19.3	17.5	22.7
Timothy, tons	.63	1.13	.58	.57	.57	.7
Prairie, tons	1.1	1.1	.74	.6	.44	.8
Hay Clover, tons	1	1.43	1	1.04	1.16	1.12
Alfalfa, tons	2.5	3.1	3.3	2.8	3	2.94
Cowpeas, tons	1.1	1.6	.9	.9	.9	1.08
Flax, bushels				5.2		5.2
Rye, bushels	13.5	18	13.5	13.1	12.9	14.2
Buckwheat, bushels		10	16			13
Barley, bushels		18	15	17		16.6
Broom corn, pounds	400	400	330	300		357
Cotton (lint), pounds					300	300
Potatoes, bushels	33	51	26	37	39	37
Tobacco, pounds	575	700	476	400	493	529
Sorghum syrup, gals.	66	55	58	63	64	61
Sorghum seed, bu.	16	16.6	9.5	14	11.5	13.5
Kafir, bushels	21		18	11	18	17
Cowpeas, bushels	3	6	3.5	5.1	7.5	5.02
Clover seed, bu.	1.2	1.6	1.3	1.55	1.52	1.43
Timothy seed, bu.	3	3	2.4	3.4	2.4	2.8

*Average for part of crop threshed.

AVERAGE FARM PRICE, DECEMBER, 1913.

The prices given in this table are governed by local conditions and are the current local prices prevailing in the country:

	N. E.	N. W.	Central.	S. W.	S. E.	State.
Corn, per bushel	$ .748	$ .708	$ .744	$ .764	$ .725	$ .731
Wheat, per bushel	.82	.80	.80	.82	.80	.81
Oats, per bushel	.403	.406	.442	.461	.488	.420
Flax, per bushel	....	....	....	1.15	....	1.15
Timothy seed, per bushel	2.40	2.40	3.10	2.98	3.80	2.94
Clover seed, per bushel	8.50	7.85	8.15	9.66	9.70	8.77
Cowpea seed, per bushel	2.40	2.80	2.65	2.40	2.20	2.49
Sorghum seed, per bushel	.95	1.10	1.20	1.05	1.50	1.16
Kafir, per bushel	.67	.88	1.05	.98	.99	.91
Rye, per bushel	.80	.71	.83	.91	.88	.83
Buckwheat, per bushel	....	1.00	.93	....	....	.965
Barley, per bushel	....	.73	....	.87	....	.80
Potatoes, per bushel	.91	.88	1.10	.96	1.04	.98
Sweet potatoes, per bushel	1.65	1.20	1.20	1.29	1.03	1.27
Winter apples, per bushel	.85	.83	.92	.96	.93	.90
Timothy hay, per ton	14.10	12.10	16.40	15.80	18.65	15.41
Clover hay, per ton	13.20	12.40	17.35	15.25	17.00	15.04
Alfalfa hay, per ton	17.65	13.55	18.40	17.35	18.25	17.04
Cowpea hay, per ton	13.35	10.55	14.55	13.75	16.45	13.73
Prairie hay, per ton	9.00	10.25	13.50	13.35	13.00	11.82
Broom corn brush, per ton	....	....	97.50	122.50	....	115.00
Cotton lint, per pound	....	....	....	.115	.125	.12
Leaf tobacco, per pound	.145	.141	.142	.136	.137	.14
*Wool, per pound	.18	.175	.17	.17	.179	.175
Comb honey, per pound	.15	.164	.158	.167	.15	.158
Mixed hay, per ton	11.85	11.70	15.26	16.23	17.81	13.36

*Price June 1.

FARM PRODUCE—PRICE PER POUND, DOZEN, ETC.

	N. E.	N. W.	Central.	S. W.	S. E.	State.
Chickens.						
Average price per pound	$.109	$.10	$.096	$.093	$.095	$.098
Turkeys.						
Average price per pound	.15	.152	.14	.135	.145	.1445
Number as compared with average year	.87	.88	.87	.92	.89	.886
Eggs and Butter.						
Eggs, per dozen	.297	.292	.29	.296	.299	.294
Butter, per pound	.247	.269	.25	.24	.25	.251
Honey.						
Price per pound, comb	.15	.164	.158	.167	.15	.158

LIVE STOCK, AVERAGE FARM PRICE PER HEAD, DECEMBER, 1913.

	N. E.	N. W.	Central.	S. W.	S. E.	State.
Horses.						
Spring colts	$56.25	$51.50	$47.50	$46.00	$50.75	$50.50
Yearlings	77.50	75.75	69.75	65.75	72.75	72.25
Two years old	112.25	88.00	89.00	87.25	94.75	94.25
Three years and over	128.25	111.00	111.00	110.00	118.75	115.75
Mules.						
Spring colts	68.25	68.25	62.00	57.50	61.25	63.50
Yearlings	90.75	92.25	84.00	82.25	84.75	86.75
Two years old	118.25	143.00	106.50	107.25	111.25	117.25
Three years and over	149.75	144.75	136.50	136.50	140.50	141.50
Cattle.						
Steer calves	26.50	26.75	23.75	19.00	16.50	22.50
Heifer calves	23.75	24.50	21.50	18.25	15.75	20.75
Yearling steers	40.25	40.75	35.75	29.25	24.75	34.25
Yearling heifers	37.00	37.25	31.50	28.50	23.00	31.50
Steers, two years and over	56.50	58.00	48.75	43.50	38.25	49.00
Milch cows	62.50	66.75	57.00	54.50	49.50	58.00
Sheep.						
Lambs under one year	4.00	4.25	3.75	4.00	3.50	3.90
All other sheep	5.00	5.00	4.00	4.25	3.75	4.40

LIVE STOCK—NUMBER AS COMPARED WITH AVERAGE YEAR.

	N. E.	N. W.	Central.	S. W.	S. E.	State.
Fat hogs	.71	.69	.69	.58	.68	.67
Brood sows	.78	.74	.73	.66	.76	.734
Fall pigs	.77	.72	.67	.60	.74	.70
Fat cattle	.52	.64	.52	.47	.61	.552
Stocker cattle	.66	.74	.64	.65	.70	.68
Breeding cows	.80	.78	.70	.76	.89	.79
Breeding ewes	.79	.83	.71	.72	.71	.752
Other sheep	.81	.84	.68	.69	.73	.752

LIVE STOCK—NUMBER AS COMPARED WITH FALL OF 1912.

	N. E.	N. W.	Central.	S. W.	S. E.	State.
Fat hogs	.74	.77	.72	.62	.74	.728
Brood sows	.78	.82	.70	.70	.80	.76
Fall pigs	.79	.80	.68	.66	.77	.74
Fat cattle	.62	.67	.59	.53	.71	.624
Stocker cattle	.72	.78	.64	.68	.74	.712
Breeding cows	.83	.83	.70	.78	.78	.784

MISSOURI LIVE STOCK.

An abstract of the assessment of horses and mules as shown by the assessors' returns June 1, 1913. (Compiled from reports of State Auditor John P. Gordon.)

County.	Horses.			Mules.		
	No.	Value.	Av.	No.	Value.	Av.
Adair	11,050	$434,580	$39.32	1,551	$ 53,850	$34.71
Andrew	9,065	336,790	37.15	2,481	116,120	46.60
Atchison	8,088	317,530	39.25	3,167	154,200	48.68
Audrain	9,848	435,205	44.19	5,077	248,035	48.85
Barry	9,882	279,031	28.23	3,110	89,974	28.93
Barton	8,364	316,731	37.86	2,741	111,391	40.63
Bates	14,713	522,520	36.18	15,089	186,819	36.71
Benton	9,176	235,855	25.70	2,507	77,390	30.86
Bollinger	4,878	216,697	44.42	2,764	136,286	49.30
Boone	8,824	400,425	45.37	6,098	300,745	49.31
Buchanan	7,505	284,670	37.93	2,795	139,700	50.63
Butler	4,151	154,399	37.19	2,345	97,735	41.67
Caldwell	8,542	318,755	37.31	2,057	93,915	45.65
Callaway	9,617	346,035	35.98	6,228	275,755	44.27
Camden	4,417	199,793	45.23	1,855	100,065	53.94
Cape Girardeau	5,728	239,515	40.81	2,845	133,265	46.84
Carroll	12,959	480,072	37.04	4,986	209,370	44.00
Carter	1,463	87,205	59.60	689	49,947	72.49
Cass	14,001	508,231	36.29	3,855	150,910	39.14
Cedar	8,695	311,140	35.76	2,574	96,495	37.49
Chariton	11,497	459,620	40.68	3,916	204,642	52.26
Christian	7,267	320,774	45.51	2,098	96,255	45.87
Clark	9,109	368,095	40.41	672	31,535	46.92
Clay	7,658	284,430	37.14	2,526	117,115	46.36
Clinton	5,552	142,455	25.66	2,556	91,750	35.90
Cole	3,736	155,495	41.62	1,537	95,125	61.89
Cooper	6,964	335,030	48.06	5,543	306,715	51.72
Crawford	3,929	147,515	37.54	1,939	81,875	42.22
Dade	8,011	229,143	28.63	3,033	95,930	31.62
Dallas	7,304	211,930	29.00	2,237	60,720	27.14
Daviess	11,056	404,097	36.64	3,063	110,678	36.17
DeKalb	7,884	268,348	34.03	2,124	81,380	38.31
Dent	4,893	185,301	37.87	2,029	75,060	36.99
Douglas	7,800	314,951	40.37	1,865	75,726	40.60
Dunklin	4,780	281,578	58.90	5,496	406,945	72.22
Franklin	7,511	299,535	39.87	3,398	163,095	47.99
Gasconade	3,784	148,788	39.32	2,304	99,705	43.27
Gentry	10,622	401,695	37.81	2,267	83,085	36.64
Greene	14,847	569,615	38.36	4,412	203,147	46.00
Grundy	8,642	285,185	32.92	1,787	57,896	32.39
Harrison	16,609	532,811	32.07	2,588	72,210	27.90
Henry	12,382	428,944	34.64	4,271	163,832	38.30

MISSOURI LIVE STOCK—Continued.

County.	Horses			Mules.		
	No.	Value.	Av.	No.	Value.	Av.
Hickory	6,001	$217,211	$36.20	3,091	$72,723	$34.77
Holt	6,367	273,600	42.97	2,342	134,360	57.36
Howard	5,917	227,480	38.44	4,161	210,830	50.66
Howell	7,799	299,362	38.38	2,638	112,887	42.79
Iron	1,940	94,816	48.87	1,081	62,755	58.05
Jackson	20,919	896,470	42.85	4,448	261,885	58.87
Jasper	16,411	629,592	38.86	3,337	167,780	50.27
Jefferson	6,192	206,945	33.42	2,842	120,100	42.30
Johnson	13,987	576,220	41.12	5,764	241,475	41.89
Knox	9,272	337,060	36.34	2,080	69,457	33.39
Laclede	7,062	295,125	41.77	2,257	99,665	44.15
Lafayette	11,718	423,115	36.11	5,935	248,145	41.81
Lawrence	10,523	365,395	34.72	3,286	125,194	38.09
Lewis	8,188	316,115	38.61	2,115	75,280	35.59
Lincoln	10,421	351,740	33.75	3,203	135,895	42.42
Linn	12,009	388,125	32.32	2,348	73,715	31.39
Livingston	1,062	399,210	37.50	2,161	89,767	41.50
McDonald	5,880	238,664	40.58	1,542	70,240	45.55
Macon	13,314	529,245	39.75	3,872	146,375	37.80
Madison	2,035	98,775	48.53	1,418	68,410	48.24
Maries	4,154	160,930	38.74	2,541	110,090	43.32
Marion	7,667	316,811	41.32	1,690	82,146	48.60
Mercer	9,103	315,705	34.68	1,284	42,565	33.14
Miller	6,711	233,550	34.80	2,574	104,895	40.75
Mississippi	2,415	84,240	34.88	4,360	210,995	48.39
Moniteau	5,712	242,720	42.49	3,196	142,785	44.67
Monroe	10,154	380,340	37.55	4,797	208,290	43.42
Montgomery	6,050	227,360	37.56	3,537	149,605	42.30
Morgan	5,691	168,260	29.56	3,373	103,350	30.64
New Madrid	3,060	101,020	33.01	5,348	225,320	42.13
Newton	10,902	303,040	27.79	2,086	62,345	29.88
Nodaway	17,526	676,745	38.61	2,853	125,655	44.04
Oregon	4,798	183,595	38.26	2,173	85,155	39.18
Osage	4,421	156,995	35.51	2,792	129,300	46.31
Ozark	5,601	287,598	51.35	2,049	109,690	53.53
Pemiscot	2,626	95,285	36.66	4,909	217,005	44.20
Perry	5,010	169,836	33.89	3,211	120,336	37.47
Pettis	12,022	453,515	37.72	5,022	241,415	48.07
Phelps	4,386	146,274	33.35	1,815	72,469	39.37
Pike	7,602	310,780	40.88	3,452	147,480	42.72
Platte	5,613	250,300	44.59	2,869	171,380	59.23
Polk	11,578	452,437	39.08	3,829	167,470	43.74
Pulaski	4,570	143,790	31.40	1,504	49,440	32.92
Putnam	11,111	409,130	36.82	1,463	48,566	33.19
Ralls	5,760	266,675	46.00	2,303	109,940	47.00
Randolph	8,260	330,415	40.00	2,798	125,930	45.00
Ray	10,299	352,295	34.20	4,863	204,460	42.04
Reynolds	2,571	128,480	50.00	1,638	93,720	57.21

MISSOURI LIVE STOCK—Continued.

County.	Horses.			Mules.		
	No.	Value.	Av.	No.	Value.	Av.
Ripley	4,228	$207,206	$49.00	1,996	$108,020	$54.06
St. Charles	7,348	343,975	46.81	3,218	172,335	53.52
St. Clair	9,889	312,725	31.62	2,545	97,665	38.38
St. Francois	4,023	158,215	39.32	1,676	84,850	50.62
Ste. Genevieve	3,302	118,110	35.76	1,398	62,185	44.48
St. Louis	9,847	441,360	44.82	3,805	225,730	59.32
Saline	10,484	450,505	42.97	6,840	368,665	53.89
Schuyler	7,129	226,796	31.84	696	21,955	34.54
Scotland	9,535	359,545	36.65	1,236	44,540	36.03
Scott	4,008	174,195	43.46	5,310	260,013	48.96
Shannon	3,677	133,486	36.29	1,814	81,693	45.02
Shelby	9,496	381,095	40.13	3,591	130,625	36.37
Stoddard	7,705	289,965	37.60	5,068	219,022	43.21
Stone	5,062	179,610	35.48	1,554	62,340	41.80
Sullivan	13,544	432,622	31.94	2,836	89,613	31.60
Taney	4,369	207,546	47.50	1,337	76,247	57.02
Texas	9,486	351,220	37.02	3,200	122,330	38.22
Vernon	13,797	411,746	29.84	4,285	148,353	34.62
Warren	2,734	120,275	43.99	1,497	77,185	51.50
Washington	3,394	128,270	37.79	2,297	104,525	45.50
Wayne	3,330	149,505	44.89	2,217	109,896	49.56
Webster	7,788	297,280	38.47	2,918	118,145	40.48
Worth	6,574	308,795	46.97	910	52,025	54.17
Wright	8,445	314,386	37.23	2,371	84,325	35.56
St. Louis city	15,532	764,520	49.22	2,590	121,630	46.96

An abstract of the assessment of asses and jennets and cattle as shown by the assessors' returns June 1, 1913. (Compiled from reports of State Auditor John P. Gordon.)

County.	Asses and jennets.			Cattle.		
	No.	Value.	Av.	No.	Value.	Av.
Adair	94	$5,320	$56.95	20,661	$331,660	$11.21
Andrew	90	5,950	66.10	19,087	329,990	17.28
Atchison	29	2,850	98.27	26,551	505,120	19.02
Audrain	220	16,600	75.45	17,972	320,185	17.81
Barry	198	6,405	32.34	26,741	182,572	6.82
Barton	132	5,500	41.66	12,818	149,686	11.67
Bates	259	11,360	40.00	24,810	325,434	13.11
Benton	92	3,980	43.26	18,318	214,985	11.73
Bollinger	80	4,980	62.25	12.886	143,895	11.17
Boone	276	13,675	49.54	16,452	265,930	16.16
Buchanan	78	5,600	71.80	11,996	216,245	18.03
Butler	45	1,920	42.66	11,581	96,135	8.30

MISSOURI LIVE STOCK—Continued.

County.	Asses and jennets.			Cattle.		
	No.	Value.	Av.	No.	Value.	Av.
Caldwell	71	$6,025	$84.90	15,977	$254,505	$15.93
Callaway	383	27,370	71.48	15,292	210,120	13.74
Camden	54	3,600	66.66	13,458	240,112	17.84
Cape Girardeau	99	9,130	92.22	11,333	114,290	10.08
Carroll	201	9,330	46.41	21,375	295,841	13.37
Carter	25	950	38.00	6,139	90,355	14.71
Cass	196	13,825	70.54	23,159	340,622	14.27
Cedar	93	8,825	94.89	12,932	167,185	12.15
Chariton	92	9,505	103.31	18,976	300,548	15.83
Christian	114	5,411	47.81	14,539	268,152	18.24
Clark	18	2,306	127.74	15,740	189,955	12.07
Clay	92	12,575	136.68	16,350	258,955	15.83
Clinton	35	2,275	65.00	24,529	346,275	14.12
Cole	37	4,270	115.40	9,203	138,045	15.00
Cooper	193	15,630	80.98	16,048	273,115	17.01
Crawford	35	1,540	44.00	11,607	151,810	13.07
Dade	185	6,560	35.46	14,143	154,660	10.93
Dallas	114	5,745	50.38	13,288	147,385	11.00
Daviess	104	13,570	130.48	18,695	285,086	15.25
DeKalb	53	3.260	61.50	17,706	272,274	15.38
Dent	119	4,770	40.08	13,465	183,653	13.64
Douglas	112	6,090	54.37	15,887	209,971	13.21
Dunklin	43	2,655	61.74	12,733	143,055	11.22
Franklin	45	3,515	78.11	14,195	212,800	14.99
Gasconade	37	2,040	55.10	8,941	89,750	10.03
Gentry	122	7,340	60.16	22,087	394,040	17.87
Greene	132	8,740	66.02	23,817	344,455	14.46
Grundy	143	7,190	50.28	17,416	237,332	13.63
Harrison	172	9,825	57.12	32,909	439,010	13.34
Henry	167	11,209	67.01	22,769	296,700	13.03
Hickory	112	6,460	57.70	12,221	166,838	13.65
Holt	34	3,270	96.17	11,016	198,640	18.03
Howard	176	11,490	65.28	13,762	223,380	16.23
Howell	129	8,690	67.36	16,125	238,189	14.77
Iron	31	1,725	55.64	5,968	85,542	14.33
Jackson	....	....	....	21,611	425,095	19.67
Jasper	164	6,715	40.94	19,139	314,386	16.42
Jefferson	55	2,345	42.64	13,147	187,620	14.27
Johnson	258	17,285	67.00	29,379	435,230	14.81
Knox	89	6,650	74.72	16,290	219,102	13.45
Laclede	131	7,860	60.00	15,601	245,237	15.71
Lafayette	147	8,595	58.47	24,540	357,050	14.55
Lawrence	211	9,885	46.84	15,349	189,486	12.34
Lewis	78	5,535	70.96	14,667	248,695	16.96
Lincoln	....	....	....	12,145	162,715	13.39
Linn	114	5,480	48.07	27,016	415,696	15.39
Livingston	107	6,895	64.40	17,964	307,765	16.10
McDonald	116	5,380	46.38	8,111	129,106	15.91

MISSOURI LIVE STOCK—Continued.

County.	Asses and jennets.			Cattle.		
	No.	Value.	Av.	No.	Value.	Av.
Macon	141	$11,715	$83.08	26,204	$391,570	$14.94
Madison	13	990	76.92	7,804	97,900	12.54
Maries	83	3,300	39.75	10,867	126,685	11.65
Marion	112	10,380	92.67	10,957	180,606	16.48
Mercer	69	4,407	63.86	19,895	342,256	17.02
Miller	56	4,300	76.79	15,488	176,980	11.43
Mississippi	29	1,860	64.13	4,736	54,210	11.44
Moniteau	98	8,940	91.22	12,117	186,840	15.42
Monroe	325	18,400	55.92	16,634	275,880	16.58
Montgomery	115	7,730	67.00	12,349	138,695	11.23
Morgan	117	5,355	45.70	11,941	117,340	9.82
New Madrid	19	1,075	56.57	7,960	41,185	5.17
Newton	96	4,275	44.53	12,542	114,515	9.13
Nodaway	94	6,080	64.68	41,416	569,465	13.74
Oregon	410	3,250	79.25	17,959	193,766	10.78
Osage	35	2,005	52.28	12,362	136,860	11.07
Ozark	98	5,337	54.46	21,021	354,889	17.21
Pemiscot	20	1,215	60.75	7,996	45,415	5.67
Perry	58	3,420	58.96	9,513	107,016	11.24
Pettis	173	8,610	49.76	23,262	395,475	17.00
Phelps	74	3,515	47.50	12,283	153,940	12.53
Pike	244	12,330	50.53	11,181	216,680	19.37
Platte	125	7,360	58.88	8,696	158,240	18.19
Polk	220	15,205	69.12	16,532	283,287	17.14
Pulaski	65	3,185	49.00	12,496	175,100	14.02
Putnam	90	4,477	49.70	23,212	354,919	15.29
Ralls	96	8,110	86.00	10,333	168,685	16.00
Randolph	235	14,095	60.00	13,844	221,500	16.00
Ray	190	15,935	83.86	17,480	321,770	18.40
Reynolds	31	1,915	61.77	12,992	157,857	12.15
Ripley	58	2,868	49.45	11,847	137,644	11.62
St. Charles	56	3,180	56.79	10,651	185,800	17.34
St. Clair	132	9,235	70.00	16,193	229,005	14.14
St. Francois	51	3,390	66.47	10,147	163,905	16.14
Ste. Genevieve	64	3,990	62.34	8,154	95,325	11.68
St. Louis	....	....	....	9,878	196,830	19.92
Saline	146	9,765	66.88	28,901	622,540	21.54
Schuyler	62	3,245	49.92	11,310	144,894	12.81
Scotland	74	3,560	48.10	17,403	248,175	14.26
Scott	27	2,650	98.16	7,883	90,823	11.52
Shannon	53	1,943	36.31	15,301	157,408	10.22
Shelby	193	17,155	88.88	14,547	242,230	16.65
Stoddard	64	4,420	69.06	15,826	154,446	9.76
Stone	95	3,870	40.72	11,747	128,745	10.96
Sullivan	139	6,910	50.00	30,464	427,215	14.02
Taney	85	3,990	46.94	15,851	280,464	17.69
Texas	206	10,480	50.87	25,245	263,720	10.44
Vernon	173	7,071	40.87	21,186	252,357	11.91

MISSOURI LIVE STOCK—Continued.

County.	Asses and jennets.			Cattle.		
	No.	Value.	Av.	No.	Value.	Av.
Warren	7	$825	$117.84	6,322	$77,775	$12.30
Washington	32	2,410	75.31	12,067	120,870	10.01
Wayne	41	2,450	59.75	14,896	167,130	11.22
Webster	131	6,630	50.61	18,652	233,910	12.54
Worth	77	8,905	115.64	13,701	237,955	17.36
Wright	133	7,637	57.42	16,348	245,721	15.03
St. Louis city				1,792	34,340	19.16

An abstract of the assessment of sheep and hogs as shown by the assessors' returns June 1, 1913. (Compiled from reports of State Auditor John P. Gordon.)

County.	Sheep.			Hogs.		
	No.	Value.	Av.	No.	Value.	Av.
Adair	8,529	$12,300	$1.44	14,118	$49,580	$3.51
Andrew	3,759	7,805	2.00	21,079	144,760	6.90
Atchison	1,206	2,370	1.97	32,134	116,080	3.61
Audrain	1,814	19,600	1.98	23,241	119,455	5.14
Barry	6,055	5,961	.98	17,488	21,934	1.25
Barton	2,640	2,838	1.07	9,573	27,885	2.91
Bates	6,668	9,966	1.49	26,336	95,978	4.25
Benton	4,730	5,110	1.08	12,129	34,592	2.85
Bollinger	7,221	10,629	1.47	20,953	48,609	2.32
Boone	8,866	21,810	2.46	20,552	69,875	3.39
Buchanan	3,194	6,470	2.02	14,722	54,825	3.72
Butler	1,421	1,335	.94	19,570	23,513	1.20
Caldwell	6,160	10,070	1.63	22,294	92,645	4.15
Callaway	13,853	26,670	1.92	18,434	71,570	3.88
Camden	7,845	14,658	1.91	14,038	28,618	2.03
Cape Girardeau	4,893	7,580	1.55	15,969	40,450	2.53
Carroll	7,333	10,228	1.39	35,166	102,138	2.90
Carter	575	998	1.73	10,393	18,515	1.78
Cass	5,295	8,889	1.67	28,996	108,992	3.76
Cedar	3,871	4,931	1.27	21,208	42,629	2.01
Chariton	8,860	18,946	2.14	14,231	61,860	4.34
Christian	4,537	8,085	1.78	25,218	60,152	2.38
Clark	9,306	18,575	1.99	18,185	41,990	5.11
Clay	4,487	8,675	1.93	30,162	106,165	3.52
Clinton	3,577	6,100	1.71	26,314	60,360	2.29
Cole	1,489	2,125	1.42	8,727	20,985	2.40
Cooper	6,801	12,060	1.78	29,127	112,570	3.83
Crawford	3,394	6,665	1.96	9,319	23,770	2.55
Dade	5,063	5,066	1.00	16,998	43,206	2.54
Dallas	6,416	8,894	1.38	13,957	24,070	1.72

MISSOURI LIVE STOCK—Continued.

County.	Sheep.			Hogs.		
	No.	Value.	Av.	No.	Value.	Av.
Daviess	14,142	$20,851	$1.47	20,340	$75,559	$3.71
DeKalb	3,843	8,308	2.16	16,456	61,616	3.74
Dent	7,380	7,484	1.01	16,634	20,809	1.25
Douglas	9,670	14,244	1.04	16,729	39,088	2.34
Dunklin	439	452	1.03	27,539	56,594	2.05
Franklin	2,124	4,595	2.16	18,598	56,065	3.01
Gasconade	1,757	3,836	2.18	10,639	28,327	2.66
Gentry	11,975	13,301	1.11	20,009	109,536	5.46
Greene	6,362	8,423	1.31	22,798	77,028	3.38
Grundy	12,145	12,453	1.03	14,019	47,739	3.40
Harrison	19,053	52,653	2.76	33,904	138,370	4.08
Henry	3,393	4,831	1.42	21,361	72,466	3.39
Hickory	5,182	7,777	1.50	9,486	21,736	2.30
Holt	591	1,570	2.65	14,595	75,650	5.11
Howard	5,976	11,750	1.96	14,587	52,310	3.58
Howell	6,549	6,762	1.03	19,543	29,502	1.50
Iron	1,291	2,125	1.57	6,448	13,550	2.10
Jackson	6,100	10,455	1.71	23,852	121,507	5.09
Jasper	3,959	4,850	1.22	14,570	55,443	3.80
Jefferson	1,570	2,570	1.64	12,727	36,680	2.88
Johnson	8,769	12,415	1.42	29,587	109,305	3.72
Knox	7,063	7,648	1.08	18,074	55,230	3.06
Laclede	5,560	8,620	1.55	11,760	36,603	3.11
Lafayette	5,720	8,495	1.48	26,262	150,575	5.73
Lawrence	4,208	5,812	1.38	19,809	52,226	2.60
Lewis	7,379	14,965	2.03	14,389	52,985	3.68
Lincoln	3,853	7,705	2.00	23,423	76,315	3.25
Linn	12,710	16,017	1.26	18,334	58,908	3.21
Livingston	7,448	11,038	1.48	14,616	73,240	5.00
McDonald	3,348	3,878	1.15	11,367	29,912	2.63
Macon	9,718	16,600	1.70	16,007	70,930	4.43
Madison	2,511	3,910	1.55	6,620	12,975	1.70
Maries	3,670	4,070	1.10	19,084	17,915	.93
Marion	6,369	11,950	1.87	11,954	50,758	4.24
Mercer	5,227	8,275	1.58	16,799	65,513	3.80
Miller	3,480	4,035	1.16	16,875	32,525	1.93
Mississippi	155	210	1.35	11,781	29,625	2.51
Moniteau	1,872	3,525	1.88	16,513	56,675	3.43
Monroe	18,914	30,900	1.63	19,061	69,710	3.65
Montgomery	5,668	9,540	1.68	19,975	65,525	3.25
Morgan	5,062	5,170	1.00	11,721	24,320	2.07
New Madrid	122	130	1.06	17,280	17,280	1.00
Newton	1,985	2,595	1.30	9,528	20,485	2.14
Nodaway	7,868	7,482	.95	40,568	135,096	3.33
Oregon	2,725	2,725	1.00	22,166	22,166	1.00
Osage	2,586	3,005	1.16	16,584	40,065	2.42

MISSOURI LIVE STOCK—Continued.

County.	Sheep.			Hogs.		
	No.	Value.	Av.	No.	Value.	Av.
Ozark	4,175	$4,327	$1.03	17,517	$38,494	$2.19
Pemiscot	107	75	.70	13,484	18,870	1.40
Perry	4,269	5,094	1.19	21,963	51,739	2.35
Pettis	6,301	13,115	2.08	21,918	76,900	3.50
Phelps	3,787	4,163	1.09	9,315	14,401	1.54
Pike	6,365	12,380	1.94	11,885	51,460	4.32
Platte	3,832	11,490	2.99	13,466	61,260	4.54
Polk	7,135	12,062	1.83	18,763	64,570	3.44
Pulaski	6,080	6,330	1.04	14,647	16,630	1.13
Putnam	8,441	9,026	1.07	15,211	57,431	3.77
Ralls	6,004	11,900	2.00	7,295	36,365	5.00
Randolph	8,948	17,890	2.00	8,905	35,620	4.00
Ray	4,871	8,500	1.74	34,234	140,385	4.10
Reynolds	2,079	2,092	1.00	18,842	29,322	1.55
Ripley	2,262	3,190	1.39	18,474	30,682	1.66
St. Charles	2,920	5,850	2.00	18,245	65,945	3.61
St. Clair	3,861	4,735	1.23	15,562	62,665	4.03
St. Francois	1,197	2,270	1.89	6,621	21,460	3.24
Ste. Genevieve	2,844	4,305	1.51	11,560	28,745	2.48
St. Louis	721	1,580	2.19	14,159	59,000	4.16
Saline	4,091	8,565	2.09	32,749	146,730	4.48
Schuyler	39,400	39,396	1.00	8,280	23,657	2.86
Scotland	12,596	18,970	1.50	12,397	53,190	4.29
Scott	768	1,281	1.67	19,127	41,488	2.17
Shannon	3,079	2,842	.92	18,757	26,854	1.43
Shelby	10,794	17,340	1.60	20,699	88,815	4.29
Stoddard	2,060	2,060	1.00	28,433	28,433	1.00
Stone	5,950	6,990	1.18	16,315	27,320	1.67
Sullivan	11,701	17,186	1.47	18,680	55,127	2.95
Taney	4,584	7,622	1.66	13,461	17,787	1.31
Texas	10,229	13,805	1.34	30,762	37,226	1.21
Vernon	3,024	3,962	1.31	17,689	55,967	3.16
Warren	1,130	2,250	1.99	9,636	21,810	2.26
Washington	1,883	2,050	1.08	6,318	7,355	1.16
Wayne	2,139	3,618	1.68	19,702	38,221	1.94
Webster	2,425	4,170	1.71	14,462	33,223	2.29
Worth	7,421	11,180	1.50	11,960	50,575	4.22
Wright	10,412	15,694	1.50	20,986	35,788	1.75
St. Louis city				35	330	9.42

LIST OF AWARDS AT THE MISSOURI STATE FAIR, 1913.

SEDALIA, SEPTEMBER 27–OCTOBER 3.

DRAFT AND COACH HORSES.

CLYDESDALE.

Class.			*Premium.*
1.	Stallion, 4 years or over—		
	F. L. Crosby, Mexico, Mo	Gallant Sturdy	First.
	F. L. Crosby, Mexico, Mo	Gallant Jack	Second.
2.	Stallion, 3 years, under 4	(No entries.)	
3.	Stallion, 2 years, under 3	(No entries.)	
4.	Mare, 3 years or over—		
	F. L. Crosby, Mexico, Mo	Dove's Queen	First.
	F. L. Crosby, Mexico, Mo	Lucile H	Second.
5.	Mare, 2 years, under 3—		
	F. L. Crosby, Mexico, Mo	Dolly Dimples	First.
6.	Champion stallion—		
	F. L. Crosby, Mexico, Mo	Gallant Sturdy	First.
7.	Champion mare—		
	F. L. Crosby, Mexico, Mo	Dove's Queen	First.
8.	Stallion, 1 year, under 2—		
	F. L. Crosby, Mexico, Mo	Gallant Prince	First.
9.	Stallion, under 1 year	(No entry.)	
10.	Mare, 1 year, under 2	(No entry.)	
11.	Mare, under 1 year—		
	F. L. Crosby, Mexico, Mo	Gallant Maid	First.
	F. L. Crosby, Mexico, Mo	Grace Gallant	Second.
12.	Mare and foal—		
	F. L. Crosby, Mexico, Mo	Dove's Queen	First.
13.	Four colts, either sex, bred in Missouri, to be shown with sire—		
	F. L. Crosby, Mexico, Mo	Gallant Sturdy	First.

ENGLISH SHIRE.

(No entries.)

BELGIAN.

27.	Stallion, 4 years and over—		
	C. L. Henman, Halls, Mo	Fiston	First.
	Joseph M. Nolan, Paola, Kan	Adore	Second.
	J. A. Winebrenner, Tipton, Mo	Bienfait De Mosmay	Third.
28.	Stallion, 3 years, under 4	(No entries.)	
29.	Stallion, 2 years, under 3	(No entries.)	
30.	Mare, 3 years or over	(No entries.)	
31.	Mare, 2 years, under 3	(No entries.)	
32.	Champion stallion—		
	C. L. Henman, Halls, Mo	Fiston	First.
33.	Champion mare	(No entries.)	
34.	Stallion, 1 year, under 2	(No entries.)	
35.	Stallion, under 1 year—		
	J. A. Winebrenner, Tipton, Mo	Bienfait, Jr	First.
	J. A. Winebrenner, Tipton, Mo	Unnamed	Second.
36.	Mare, 1 year, under 2	(No entries.)	
37.	Mare, under 1 year—		
	J. A. Winebrenner, Tipton, Mo	Unnamed	First.
	J. A. Winebrenner, Tipton, Mo	Unnamed	Second.
38.	Mare and foal	(No entries.)	
39.	Four colts, either sex, bred in Missouri, to be shown with sire—		
	J. A. Winebrenner, Tipton, Mo	Bienfait De Mosmay	Second.

PERCHERONS.

40.	Stallion, 4 years or over—		
	Percheron Importing Co., South St. Joseph, Mo	Joel	First.
	Brown & Walker, Clarinda, Iowa	Helix	Second.
	Percheron Importing Co., South St. Joseph, Mo	Insolent	Third.
41.	Stallion, 3 years, under 4—		
	Percheron Importing Co	Kozo	First.
	Percheron Importing Co	Karilion	Second.
42.	Stallion, 2 years, under 3—		
	Lee Bros., Harveyville, Kan	Reinhard	First.
	Percheron Importing Co	Logisse	Second.

Class.			Premium.
	J. F. Roelofson, Maryville, Mo	Dynamo	Third.
	Percheron Importing Co	Legionire	Fourth.
	M. D. Alcorn, Sedalia, Mo	Ronflent 2nd	Fifth.
43.	Mare, 4 years old or over—		
	Powell McCulley, Princeton, Mo	Gaite	First.
	Lee Bros., Harveyville, Kan	Beattie	Second.
	Powell McCulley, Princeton, Mo	Grive	Third.
	M. D. Alcorn, Sedalia, Mo	Kate Ross	Fourth.
	Omar C. Davis, Saline, Mo	Dora	Fifth.
44.	Mare, 3 years, under 4—		
	Lee Bros., Harveyville, Kan	Flora	First.
	Lee Bros., Harveyville, Kan	Marcellene	Second.
	N. S. Cox, Pattonsburg, Mo	Paris Lady	Third.
	Omar C. Davis, Saline, Mo	Loretta	Fourth.
45.	Mare, 2 years, under 3—		
	Lee Bros., Harveyville, Kan	Lucile	First.
46.	Group of 5 stallions—		
	Percheron Importing Co., South St. Joseph, Mo		First.
	Lee Bros., Harveyville, Kan		Second.
47.	Group of 3 mares—		
	Lee Bros., Harveyville, Kan		First.
	Powell McCulley, Princeton, Mo		Second.
	Lee Bros		Third.
48.	Stallion and 4 mares—		
	Lee Bros		First.
	Lee Bros		Second.
49.	4 animals, either sex, get of 1 sire—		
	Lee Bros		First.
50.	2 animals, either sex, produce 1 mare—		
	Lee Bros		First.
51.	Champion stallion, any age—		
	Percheron Importing Co	Joel	First.
	Lee Bros	Reinhard	Second.
52.	Champion mare, any age—		
	P. V. McCulley, Princeton, Mo	Gaite	First.
	Lee Bros	Flora	Second.
53.	Stallion, 2 years or over—		
	J. F. Roelofson, Maryville, Mo	Dynamo	First.
	M. D. Alcorn, Sedalia, Mo	Ronflant 2nd	Second.
54.	Stallion, 1 year old, under 2—		
	J. F. Roelofson, Maryville, Mo	Tableau	First.
	Omar C. Davis, Saline, Mo	Gamin, Jr	Second.
55.	Mare, 2 years old or over—		
	N. S. Cox, Pattonsburg, Mo	Lady Colibert	First.
	N. S. Cox, Pattonsburg, Mo	Paris Lady	Second.
	Omar C. Davis, Saline, Mo	Ioalatha	Third.
	D. B. Koger, Pattonsburg, Mo	Lady Alice	Fourth.
	M. D. Alcorn, Sedalia, Mo	Kate Ross	Fifth.
56.	Mare, 1 year, under 3—		
	Powell McCulley, Princeton, Mo	Dorothy	First.
	Powell McCulley, Princeton, Mo	Fannie	Second.
57.	Foal, either sex, under 1 year—		
	Powell McCulley, Princeton, Mo	Wonder	First.
	M. D. Alcorn, Sedalia, Mo	Brilliant	Second.
	Omar C. Davis, Saline, Mo	Jim Ornlsby	Third.
58.	Mare and foal—		
	M. D. Alcorn, Sedalia, Mo	Kate Ross and Brilliant	First.
59.	Group of 5 stallions	(No entries.)	
60.	Group of 3 mares	(No entries.)	
61.	Stallion and 4 mares	(No entries.)	
62.	Four animals, either sex, get of one sire	(No entries.)	
63.	Two animals, either sex, produce of one mare—		
	Omar C. Davis, Saline, Mo	Ioalatha and Gamin, Jr	First.
	Powell McCulley, Princeton, Mo	Dorothy and Wonder	Second.
64.	Champion stallion, any age—		
	J. F. Roelofson, Maryville, Mo	Tableau	First.
65.	Champion mare, any age—		
	N. S. Cox & Son, Pattonsburg, Mo	Lady Colibert	First.
Special.	Stallion, 3 years old or over, bred and owned by exhibitor. (No entries.)		
Special.	Stallion, under 3 years, bred and owned by exhibitor—		
	J. F. Roelofson, Maryville, Mo	Tableau	First.
	Lee Bros., Harveyville, Kan	Moraine	Second.
	J. F. Roelofson	Dynamo	Third.
Special.	Champion stallion, bred and owned by exhibitor—		
	J. F. Roelofson	Tableau	First.
	Lee Bros	Moraine	Second.
Special.	Mare, 3 years or over—		
	Lee Bros	Marcellene	First.
	N. S. Cox & Sons, Pattonsburg, Mo	Paris Lady	Second.

Class.			*Premium.*
Special.	Mare, under 3 years—		
	Lee Bros	Madeline	First.
	Lee Bros	Monita	Second.
	Powell McCulley, Princeton, Mo	Dorothy	Third.
Special.	Champion mare, bred and owned by exhibitor—		
	Lee Bros	Marcellene	First.
	Lee Bros	Madeline	Second.
Special.	Get of stallion, 4 colts, either sex—		
	Lee Bros		First.
Special.	Produce of mare, 2 colts, either sex—		
	Lee Bros		First.
	Omar C. Davis, Saline, Mo		Second.
	Powell McCulley, Princeton, Mo		Third.
Special.	Champion stud, consisting of stallion and 4 mares—		
	Lee Bros		First.
Special.	Five stallions, owned by exhibitor—		
	Percheron Importing Co., South St. Joseph, Mo		First.
	Lee Bros, Harveyville, Kan		Second.
Special.	Champion stallion, open class—		
	Percheron Importing Co	Joel	First.
	Lee Bros	Reinhard	Second.
Special.	Champion mare, open class—		
	P. V. McCulley, Princeton, Mo		First.
	Lee Bros		Second.

FRENCH DRAFT.

66.	Stallion, 4 years or over	(No entries.)	
67.	Stallion, 3 years, under 4	(No entries.)	
68.	Stallion, 2 years, under 3—		
	Lee Bros	Martin	First.
69.	Mare, 3 years or over—		
	Lee Bros	Stella	First.
70.	Mare, 2 years, under 3—		
	Lee Bros	Lucile	First.
	Lee Bros	Maggie	Second.
71.	Champion stallion—		
	Lee Bros., Harveyville, Kan	Martin	First.
72.	Champion mare—		
	Lee Bros	Stella	First.
73.	Stallion, 1 year, under 2—		
	J. F. Roelofson, Maryville, Mo	John Bunny	First.
74.	Stallion, under 1 year	(No entries.)	
75.	Mare, 1 year, under 2	(No entries.)	
76.	Mare, under 1 year	(No entries.)	
77.	Mare and foal	(No entries.)	
78.	Four colts, either sex, bred in Missouri, to be shown with sire.		(No entries.)

FRENCH COACH.

No entries in French Coach.

GERMAN COACH.

90.	Stallion, 4 years old or over—		
	Joseph M. Nolan, Paola, Kan	Attila	First.

No entries in the other classes in German Coach.

GRADE DRAFT.

101.	Draft mare or gelding, 4 years or over—		
	J. A. Howell, Paris, Mo	Daisy	First.
	J. A. Howell, Paris, Mo	Kit	Second.
	J. H. Smith, Sedalia, Mo	Maud	Third.
102.	Draft mare or gelding, 3 years, under 4—		
	C. J. Irvine, Marshall, Mo		First.
103.	Draft mare or gelding, 2 years, under 3	(No entries.)	
104.	Draft mare or gelding, 1 year, under 3	(No entries.)	
105.	Draft foal, either sex, under 1 year—		
	J. A. Howell, Paris, Mo	Keen	First.
	J. A. Howell, Paris, Mo	Duke	Second.
	J. H. Smith, Sedalia, Mo	Nellie	Third.
	F. L. Crosby, Mexico, Mo	Unnamed	Fourth.
106.	Draft mare and foal—		
	J. A. Howell	Daisy and foal	First.
	J. A. Howell	Kit and foal	Second.
	J. H. Smith		Third.
107.	Champion draft mare or gelding—		
	J. A. Howell	Keen	First.

Class.			*Premium.*
108.	Pair draft horses in harness—		
	J. A. Howell		First.
Special.	Pair registered draft mares hitched—		
	Lee Bros		First.
	P. V. McCulley		Second.
	N. S. Cox & Sons		Third.

LIGHT HORSES.

STANDARD-BRED ROADSTERS.

1.	Stallion, 4 years old or over—		
	Houchin & Anderson, Jefferson City, Mo.	Billy Woods	First.
	Jos. T. Harris, Columbia, Mo	Allero	Second.
	A. B. Shepherd, Columbia, Mo	Carl Reade	Third.
2.	Stallion, 3 years, under 4	(No entries.)	
3.	Stallion, 2 years, under 3—		
	A. B. Shepherd, Columbia, Mo	Golden Reade	First.
4.	Stallion, 1 year, under 2	(No entries.)	
5.	Stallion, under 1 year—		
	T. H. Graham, Windsor, Mo	Baron Hummer	First.
6.	Mare, 3 years or over—		
	Houchin & Anderson, Jefferson City, Mo.	Hasting Girl	First.
	Miss Loula Long, Kansas City, Mo	Aspiration	Second.
	Tom Bass, Mexico, Mo	Journey Maid	Third.
7.	Mare, 2 years, under 3—		
	Tom Bass, Mexico, Mo	Unnamed	First.
8.	Mare, 1 year, under 2	(No entries.)	
9.	Mare, under 1 year	(No entries.)	
10.	Stallion and 4 of his get	(No entries.)	
11.	Mare and foal—		
	T. H. Graham, Windsor, Mo	Gadabout	First.

ENGLISH HACKNEY.

12.	Stallion, 4 years and over—		
	Miss Loula Long, Kansas City, Mo	Imitation	First.
13.	Stallion, 3 years, under 4	(No entries.)	
14.	Stallion, 2 years, under 3	(No entries.)	
15.	Stallion, 1 year, under 2	(No entries.)	
16.	Stallion, under 1 year	(No entries.)	
17.	Mare, 3 years or over—		
	Tom Bass, Mexico, Mo	Unnamed	First.
18.	Mare, 2 years, under 3	(No entries.)	
19.	Mare, 1 year, under 2	(No entries.)	
20.	Mare, under 1 year	(No entries.)	
21.	Stallion and 4 of his get	(No entries.)	
22.	Mare and foal	(No entries.)	

ROADSTERS AND CARRIAGE HORSES.

23.	Driving team—		
	Jos. T. Harris, Columbia, Mo	Peter Pan and mate	First.
	Houchin & Anderson	Billy Woods and Hasting Girl	Second.
	Houchin & Anderson	Josie and Peak	Third.
24.	Single gelding or mare—		
	Houchin & Anderson	Hasting Girl	First.
	Jos. T. Harris, Columbia, Mo	Peter Pan	Second.
	Miss Loula Long, Kansas City	Unnamed	Third.
25.	Carriage team—		
	Eaton Farm, Mexico, Mo	Queen of the Denmarks and mate	First.
	Jos. T. Harris, Columbia, Mo	Peter Pan and mate	Second.
	Buckman Bros., Monroe City, Mo	Hugh M. and Dr. P	Third.
26.	Family mare or gelding—		
	Miss Loula Long, Kansas City	Hesitation	First.
	Eaton Farm, Mexico, Mo	Bonnie Maid	Second.
	Tom Bass, Mexico, Mo	Unnamed	Third.

GAITED SADDLE HORSES.

27.	Stallion, 4 years or over—		
	Miss Loula Long	Kentucky's Best	First.
	Tom Bass	Rex Chief A	Second.
	Hook & Woods, Paris, Mo	Forest Ike	Third.
	S. Y. Sanders, Warrensburg, Mo	Rex Moore	Fourth.
	H. L. Duvenick, California, Mo	King High Falutin	Fifth.
28.	Gelding, 4 years or over—		
	Matlack & Shropshire, Winchester, Ky.	Jack Barrymore	First.
	Paul Brown, St. Louis, Mo	Gingerbread Man	Second.
	Miss Loula Long, Kansas City, Mo	Kymokan	Third.
	Eaton Farm, Mexico, Mo	Masterpiece	Fourth.
	Tom Bass, Mexico, Mo	Jack Dare	Fifth.

Class.			*Premium.*
29.	Stallion, 3 years old—		
	Eaton Farm, Mexico, Mo	Senator Cantrill	First.
	Miss Loula Long, Kansas City, Mo	Pride of Paris	Second.
	Estill & Son, Estill, Mo	Carmen King	Third.
	Jas. Houchin, Jefferson City, Mo	Rex Wilson	Fourth.
	W. S. & G. V. Sneed, Sedalia, Mo	Fleet Wood	Fifth.
30.	Gelding, 3 years old—		
	Houchin & Anderson, Jefferson City	Unnamed	First.
	Tom Bass, Mexico, Mo	William Dare	Second.
	Forest Glenn Farm, Holliday, Mo	Hugh Crockett	Third.
	Hook & Woods, Paris, Mo	Ayers C	Fourth.
	Wm. M. Ridge, Shelbina, Mo	Troublesome Billy	Fifth.
31.	Stallion, 2 years old—		
	Hook & Woods, Paris, Mo	Noble Grand	First.
	Forest Glenn Farm, Holliday, Mo	Rex Caronia	Second.
	J. C. Cabbell, Bosworth, Mo	Fair Acre Listen	Third.
32.	Mare, 4 years old and over—		
	Matlack & Shropshire, Winchester, Ky	Hazel Dawn	First.
	Estill & Son, Estill, Mo	Miss Cliff	Second.
	Miss Loula Long, Kansas City, Mo	Czarmavia	Third.
	Eaton Farm, Mexico, Mo	Queen of the Denmarks	Fourth.
	Tom Bass, Mexico, Mo	Unnamed	Fifth.
33.	Mare, 3 years old—		
	Houchin & Anderson, Jefferson City	May Dare	First.
	Miss Loula Long, Kansas City	Katherine Grigsby	Second.
	Eaton Farm, Mexico, Mo	Bavarian Rose	Third.
34.	Mare, 2 years old—		
	Hook & Woods, Paris, Mo	Jacque	First.
	Eaton Farm, Mexico, Mo	Larkspur	Second.
	Eaton Farm, Mexico, Mo	Rexall Princess	Third.
	Houchin & Anderson, Jefferson City, Mo	Heaven's Maid	Fourth.
	Forest Glenn Farm, Holliday, Mo	Ruth Dean	Fifth.
35.	Combined ring, mare or gelding, any age—		
	Matlack & Shropshire, Winchester, Ky	Jack Barrymore	First.
	Eaton Farm, Mexico, Mo	Queen of the Denmarks	Second.
	Miss Loula Long, Kansas City, Mo	Kymokan	Third.
36.	Plantation walking horse—		
	Eaton Farm, Mexico, Mo	Bonnie Maid	First.
	Geo. R. Homan, Sedalia, Mo	Bill	Second.
	Tom Bass, Mexico, Mo	Unnamed	Third.
37.	$2,500.00 stake, stallion, mare or gelding—		
	Matlack & Shropshire, Winchester, Ky	Hazel Dawn	First.
	Miss Loula Long, Kansas City, Mo	My Major Dare	Second.
	Houchin & Anderson, Jefferson City, Mo	Astral King	Third.
	Ball Bros., Versailles, Ky	Sady Macey	Fourth.
	E. D. Moore, Mexico, Mo	Princess Eugenia	Fifth.
	Blades Bros., Holliday, Mo	Maurine Fisher	Sixth.
	Paul Brown, St. Louis, Mo	Gingerbread Man	Seventh.
	E. D. Moore, Mexico, Mo	Queen of the Denmarks	Eighth.
	Estill & Son, Estill, Mo	Miss Cliff	Ninth.
	Buckman Bros, Monroe City, Mo	Bob McDonald	Tenth.
38.	$500.00 junior saddle stake, stallion, mare or gelding, 4 years and under—		
	Miss Loula Long, Kansas City, Mo	Kentucky's Best	First.
	Paul Brown, St. Louis, Mo	Mary Dowling	Second.
	Blades Bros, Holliday, Mo	Maurine Fisher	Third.
	H. A. Greenwell, Lakenan, Mo	Easter Cloud	Fourth.
	Miss Loula Long, Kansas City, Mo	Czarmavia	Fifth.
	Estill & Son, Estill, Mo	Carmen King	Sixth.
	Eaton Farm, Mexico, Mo	Bavarian Rose	Seventh.
	J. H. Wright, Smithville, Mo	Silver King	Eighth.

AMERICAN SADDLE HORSES.

39.	Stallion, in service, 3 years and over—		
	Miss Loula Long, Kansas City, Mo	Kentucky's Best	First.
	Estill & Son, Estill, Mo	Carmen King	Second.
	Tom Bass, Mexico, Mo	Rex Chief A	Third.
40.	Colt foaled in 1912—		
	Ball Bros., Versailles, Ky	McGibbon	First.
	Houchin & Anderson, Jefferson City, Mo	Unnamed	Second.
	Houchin & Anderson, Jefferson City, Mo	Unnamed	Third.
41.	Colt foaled in 1913—		
	Eaton Farm, Mexico, Mo	Rex Collins	First.
	W. C. McCann, Holliday, Mo	Grand McDonald	Second.
	Forest Glenn Farm, Holliday, Mo	Eagle Blade	Third.
42.	Mare, 4 years old and over—		
	Ball Bros., Versailles, Ky	Music	First.
	Tom Bass, Mexico, Mo	Vester Dare	Second.
	Jas. Houchin, Jefferson City, Mo	Unnamed	Third.
43.	Filly foaled in 1912—		
	Ball Bros., Versailles, Ky	Florissa	First.
	R. K. Jackson, Danville, Ill	Virginia Rose	Second.
	Jas. Houchin, Jefferson City, Mo	Unnamed	Third.

Class.			*Premium.*
44.	Filly foaled in 1913—		
	Tom Bass, Mexico, Mo	Ester Peavine	First.
	E. A. Spires, Holliday, Mo	Imawhirlwind	Second.
	J. E. Atterbury, Holliday, Mo	Corine	Third.
45.	Brood mare, 4 years or over, with foal by side—		
	Tom Bass, Mexico, Mo	Vester Dare	First.
	Ball Bros., Versailles, Ky	Music	Second.
	Jas. Houchin, Jefferson City, Mo	Unnamed	Third.
46.	Stallion and 4 of his get—		
	Jas. Houchin, Jefferson City, Mo	Unnamed	First.
	Lee H. Ingraham, Ft. Smith, Ark	Dare Chester	Second.
	Tom Bass, Mexico, Mo	Chester Peavine	Third.
Special.	Stallion or mare, 3 years or under, to be shown to hand—		
	Estill & Son, Estill, Mo	My Idol	Trophy.

AMERICAN CARRIAGE HORSES.

Class.			Premium.
47.	Stallion, 4 years or over—		
	P. B. Weissinger, Shelbyville, Ky	Undulata Chief	First.
	Miss Loula Long, Kansas City, Mo	Kentucky's Best	Second.
	Jos. T. Harris, Columbia, Mo	Allerro	Third.
48.	Stallion, 3 years, under 4—		
	Eaton Farm, Mexico, Mo	Senator Cantrill	First.
	Estill & Son, Estill, Mo	Carmen King	Second.
	Lee H. Ingraham, Ft. Smith, Ark	Honey Boy	Third.
49.	Mare, 4 years or over—		
	Forest Glenn Farm, Holliday, Mo	Maurine Fisher	First.
	Eaton Farm, Mexico, Mo	Bonnie Maid	Second.
	Houchin & Anderson, Jefferson City, Mo.	Miss Bliss	Third.
50.	Mare, 3 years, under 4—		
	Eaton Farm, Mexico, Mo	Bavarian Rose	First.
	Coons & Dunlap, Fulton, Mo	Sallie Forest	Second.
	Lee H. Ingraham, Ft. Smith, Ark	Golden Butterfly	Third.

SHETLAND PONIES.

Class.			Premium.
51.	Stallion, 3 years or over—		
	Mrs. H. L. Cannon, Sedalia, Mo	Bonnicue	First.
	R. T. Kreipe, Topeka, Kan	Pepper	Second.
	R. E. Bouldin, Sedalia, Mo	Barney	Third.
52.	No entries.		
53.	No entries.		
54.	Mare, 3 years or over—		
	Mrs. H. L. Cannon, Sedalia, Mo	Nellie	First.
	R. T. Kreipe, Topeka, Kan	Kinzie Bell	Second.
	R. T. Kreipe, Topeka, Kan	Error	Third.
55.	Mare, 2 years, under 3—		
	R. T. Kreipe, Topeka, Kan	Lady May H	First.
56.	Shetland pony in harness—		
	Mrs. H. L. Cannon, Sedalia, Mo	Bonnicue	First.
	R. T. Kreipe, Topeka, Kan	Pepper	Second.
	R. T. Kreipe, Topeka, Kan	Error	Third.
57.	Shetland ponies in harness—		
	R. T. Kreipe, Topeka, Kan	Pepper and Kinzie Bell	First.
	R. T. Kreipe, Topeka, Kan	Error and Elegg	Second.
	Mrs. H. L. Cannon, Sedalia, Mo	Sweetheart and Bonnie	Third.
58.	Four-in-hand Shetland—		
	R. T. Kreipe, Topeka, Kan	Pepper, Kinzie Bell, Error and Elegg	First.
59.	Shetland pony under saddle—		
	Mrs. H. L. Cannon, Sedalia, Mo	Sweetheart	First.
	R. E. Bouldin, Sedalia, Mo	Dot	Second.
	R. E. Bouldin, Sedalia, Mo	Spot	Third.
60.	Shetland stallion and 4 of his get—		
	Mrs. H. L. Cannon, Sedalia, Mo	Bonnicue and four	First.
61.	Five animals bred by exhibitor—		
	Mrs. H. L. Cannon, Sedalia, Mo		First.

NIGHT HORSE SHOWS.

HARNESS HORSES—SINGLE.

Class.			Premium.
1A.	Stallion, mare of gelding—		
	Miss Loula Long, Kansas City, Mo	Revelation	First.
	Miss Loula Long; Kansas City, Mo	Appreciation	Second.
	Tom Bass, Mexico, Mo	Unnamed	Third.
2A.	Best collection of two horses by one exhibitor—		
	Miss Loula Long, Kansas City, Mo	Unnamed	First.
	Miss Loula Long, Kansas City, Mo	Revelation and Illustration	Second.
	Tom Bass, Mexico, Mo	Unnamed	Third.

Class.			*Premium.*
3A.	Mare or gelding, 14-2, not exceeding 15-3, driven by lady—		
	Miss Loula Long, Kansas City, Mo	Revelation	First.
	Miss Loula Long, Kansas City, Mo	Meditation	Second.
	Tom Bass, Mexico, Mo	Lena Collins	Third.
4A.	Stallion, mare or gelding—		
	Miss Loula Long, Kansas City, Mo	Unnamed	First.
	Miss Loula Long, Kansas City, Mo	Unnamed	Second.
	Tom Bass, Mexico, Mo	Unnamed	Third.
5A.	Gig horse—		
	Miss Loula Long, Kansas City, Mo	Illustration	First.
	Miss Loula Long, Kansas City, Mo	Appreciation	Second.
	Houchin & Anderson, Jefferson City	Ravard	Third.
6A.	Stallion, mare or gelding (runabout class)—		
	Miss Loula Long, Kansas City, Mo	Beaukay	First.
	Tom Bass, Mexico, Mo	Lena Collins	Second.
	Miss Loula Long, Kansas City, Mo	Beaucaire	Third.
7A.	Pair stallions, pair mares or geldings, or mare and gelding—		
	Miss Loula Long, Kansas City, Mo	Revelation, Hesitation	First.
	Miss Loula Long, Kansas City, Mo	Unnamed	Second.
	Houchin & Anderson, Jefferson City, Mo	Ravard, Quenomo	Third.
8A.	Pair stallions, mares or mare and gelding (high steppers)—		
	Miss Loula Long, Kansas City, Mo	Revelation, Hesitation	First.
	Miss Loula Long, Kansas City, Mo	Unnamed	Second.
9A.	Pair mares or geldings, or mare and gelding—		
	Miss Loula Long, Kansas City, Mo	Unnamed	First.
	Tom Bass, Mexico, Mo	Lena Collins and mate	Second.
10A.	Best three horses owned by one individual—		
	Miss Loula Long, Kansas City, Mo	Unnamed	First.
	Miss Loula Long, Kansas City, Mo	Unnamed	Second.
	Tom Bass, Mexico, Mo	Unnamed	Third.
11A.	Road team, to be shown to drag, coach or brake—		
	Miss Loula Long, Kansas City, Mo	Unnamed	First.
12A.	Park team, to be shown to drag, coach or brake—		
	Miss Loula Long, Kansas City, Mo	Unnamed	First.
13A.	Tandem. The wheeler, 15-2 and under; must have substance.	(No awards.)	
14A.	Tandem. The wheeler, 15-2 and under; must have substance—		
	Miss Loula Long, Kansas City, Mo	Revelation and Hesitation	First.
15A.	Harness horses. Championship—		
	Miss Loula Long, Kansas City, Mo	Revelation	First.
	Miss Loula Long, Kansas City, Mo	Illustration	Second.

SADDLE HORSES—THREE GAITS.

16A.	Stallion, mare or gelding—		
	Miss Loula Long, Kansas City, Mo	Nancy Garland	First.
	Ball Bros., Versailles, Ky	Bettie Custer	Second.
	P. B. Weissinger, Shelbyville, Ky	Mazimoa	Third.
17A.	High school horses, stallion, mare or gelding—		
	Tom Bass, Mexico, Mo	Bell Beach	First.
	Eaton Farm, Mexico, Mo	Unnamed	Second.
	Lee H. Ingraham, Ft. Smith, Ark	Merry Montrose	Third.
18A.	Hunters and jumpers. Hunters, qualified or green, up to carrying 165 lbs.—		
	Tom Bass, Mexico, Mo	Jack Bloomfield	First.
	Miss Loula Long, Kansas City, Mo	My Choice	Second.
	Lee H. Ingraham, Ft. Smith, Ark	Golden Butterfly	Third.
19A.	High jump	(No awards.)	
20A.	Best lady rider—		
	Tom Bass, Mexico, Mo	Mable Ford	First.
21A.	Best gentleman rider	(No awards.)	
22A.	Welsh ponies, single—		
	Mrs. H. L. Cannon, Sedalia, Mo	Nellie	First.
	R. E. Bouldin, Sedalia, Mo	Barney	Second.
23A.	Team Welsh ponies	(No entries.)	
24A.	Tandem, Welsh ponies	(No awards.)	
25A.	Shetland ponies, single—		
	Mrs. H. L. Cannon, Sedalia, Mo	Sweetheart	First.
	R. T. Kreipe, Topeka, Kan	Kinzie Bell	Second.
	R. T. Kreipe, Topeka, Kan	Pepper	Third.
26A.	Shetland ponies, team—		
	Mrs. H. L. Cannon, Sedalia, Mo	Bonnie and Sweetheart	First.
	R. T. Kreipe, Topeka, Kan	Pepper and Kinzie Bell	Second.
	R. T. Kreipe, Topeka, Kan	Error and Elegg	Third.
27A.	Shetland ponies, tandem—		
	R. T. Kreipe, Topeka, Kan	Pepper and Kinzie Bell	First.
	R. T. Kreipe, Topeka, Kan	Error and Elegg	Second.
	Mrs. H. L. Cannon, Sedalia, Mo	Bonnie and Sweetheart	Third.
16B.	Saddle horses, three gaits—stallion, mare or gelding, 15-2 and over—		
	Ball Bros., Versailles, Ky	Morning Glory	First.
	Miss Loula Long, Kansas City, Mo	My Choice	Second.
	Ball Bros., Versailles, Ky	Ethel Kelly	Third.

Class.			*Premium.*
17B.	High school horses—stallion, mare or gelding—		
	Tom Bass, Mexico, Mo	Unnamed	First.
	Eaton Farm, Mexico, Mo	Unnamed	Second.
	Lee H. Ingraham, Ft. Smith, Ark	Unnamed	Third.

JACKS, JENNETS AND MULES.

1913.

62.	Jack, 4 years or over—		
	W. S. and G. V. Sneed, Sedalia, Mo	Limestone Henry	First.
	Deierling & Otto, Queen City, Mo	London	Second.
	Louis Knoop, Cole Camp, Mo	Squire Haines	Third.
63.	Jack, 3 years, under 4—		
	Deierling & Otto, Queen City, Mo	Missouri Giant	First.
	Bradley Bros., Warrensburg, Mo	Bradley's Jumbo	Second.
	Bradley Bros., Warrensburg, Mo	Joe Knox	Third.
64.	Jack, 2 years, under 3—		
	J. W. Givens, Fayette, Mo	Givens' Longfellow	First.
	Deierling & Otto, Queen City, Mo	Demonstrator	Second.
	Deierling & Otto, Queen City, Mo	Deierling's Lightning	Third.
65.	Jack, 1 year, under 2—		
	Bradley Bros, Warrensburg, Mo	The Aristocrat	First.
	Deierling & Otto, Queen City, Mo	Eastern Star	Second.
	Deierling & Otto, Queen City, Mo	Missouri Senator	Third.
66.	Jack, under 1 year—		
	Deierling & Otto, Queen City, Mo		First.
67.	Jennet, 3 years or over—		
	Frank Barkley, Blairstown, Mo	Missouri Queen	First.
	Louis Knoop, Cole Camp, Mo	Queen Elizabeth	Second.
68.	Jennet, 2 years, under 3	(No awards.)	
69.	Jennet, 1 year, under 2—		
	Frank Barkley, Blairstown, Mo	Anne Boelyn	First.
70.	Jennet, under 1 year	(No awards.)	
71.	Jack, any age—		
	J. W. Givens, Fayette, Mo	Givens' Longfellow	First.
72.	Jennet, any age—		
	Frank Barkley, Blairstown, Mo	Missouri Queen	First.
73.	Jack and 4 jennets, 3 years and over	(No awards.)	
74.	Jack and 4 jennets, under 3 years	(No awards.)	
75.	Mule, 4 years and over—		
	Ira G. Sharp, Sharpsburg, Ill	Mollie	First.
	Ira G. Sharp, Sharpsburg, Ill	Maude	Second.
	D. H. Hutchison, California, Mo	Missouri Bell	Third.
	Carl Shrader, Paris, Mo		Fourth.
	Ira G. Sharp, Sharpsburg, Ill	Ruth	Fifth.
76.	Mule, 3 years, under 4—		
	Ira G. Sharp, Sharpsburg, Ill	Illinois Queen	First.
	Midge Marshall, Moberly, Mo	Missouri Queen	Second.
	Ira G. Sharp, Sharpsburg, Ill	Illinois King	Third.
	Midge Marshall, Moberly, Mo	Susie	Fourth.
77.	Mule, 2 years, under 3—		
	Snyder Bros., Lowry City, Mo		First.
	Ira G. Sharp, Sharpsburg, Ill		Second.
	Ira G. Sharp, Sharpsburg, Ill		Third.
78.	Mule, 1 year, under 2—		
	Everly & Sloan, Coffey, Mo	Missouri Dutch	First.
	Snyder Bros., Lowry City, Mo		Second.
	Ira G. Sharp, Sharpsburg, Ill		Third.
79.	Mule, under 1 year—		
	Snyder Bros., Lowry City, Mo		First.
	C. J. Irvine, Marshall, Mo		Second.
	Snyder Bros., Lowry City, Mo		Third.
80.	Pair mules, 4 years or over—		
	Ira G. Sharp, Sharpsburg, Ill	Maude and Mollie	First.
	D. H. Hutchison, California, Mo		Second.
	Carl Shrader, Paris, Mo		Third.
81.	Pair mules, 3 years, under 4—		
	Ira G. Sharp, Sharpsburg, Ill		First.
	Midge Marshall, Moberly, Mo	Queen and Susie	Second.
82.	Pair mules, under 3—		
	Everly & Sloan, Coffey, Mo		First.
	Ira G. Sharp, Sharpsburg, Ill		Second.
	H. A. Edler, Eudora, Kan		Third.
83.	Four-mule team—		
	Ira G. Sharp, Sharpsburg, Ill		First.
	Snyder Bros., Lowry City, Mo		Second.
84.	Champion mule, any age—		
	Ira G. Sharp, Sharpsburg, Ill	Illinois Queen	First.

Class.			*Premium.*
85.	Herd of 5 mules—		
	Ira G. Sharp, Sharpsburg, Ill		First.
	Everly & Sloan, Coffey, Mo		Second.
	Snyder Bros., Lowry City, Mo		Third.
	Midge Marshall, Moberly, Mo		Fourth.

CATTLE, BEEF BREEDS.

SHORTHORNS.

1.	Bull, 3 years or over—		
	Anoka Farms, Waukesha, Wis	Village Denmark	First.
	Howell Rees & Sons, Pilger, Neb	White Rose Dale	Second.
	The Farmer Farm, Farmington, Minn	Daybreaker	Third.
2.	Bull, 2 years, under 3—		
	Anoka Farms, Waukesha, Wis	Gloster Fashion	First.
	E. M. Hall, Carthage, Mo	Princely Sultan	Second.
	W. W. Brown, Amenia, N. Dak	Village Sultan	Third.
3.	Bull, senior yearling—		
	Purdy Bros., Harris, Mo	Orange Goods	First.
	The Farmer Farm	Cornerstone	Second.
4.	Bull, junior yearling—		
	Owen Kane, Wisner Neb	Radium	First.
	N. H. Gentry & Son, Sedalia, Mo	Grand Master	Second.
5.	Bull, senior calf—		
	Owen Kane, Wisner, Neb	Royal Dale	First.
	E. M. Hall, Carthage, Mo	Village Flash	Second.
	Anoka Farms, Waukesha, Wis	Royal Silver	Third.
	H. Rees & Sons, Pilger, Neb	Sultan's Goods	Fourth.
	W. W. Brown, Amenia, N. Dak	Lochinvar	Fifth.
	Purdy Bros., Harris, Mo	Grand Goods	Sixth.
6.	Bull, junior calf—		
	Owen Kane	Dale Clarion	First.
	H. Rees & Sons	Radium Goods	Second.
	The Farmer Farm	Lancaster Duke	Third.
	Purdy Bros	Cumberland Victor	Fourth.
	E. M. Hall	Hallwood Count 2nd	Fifth.
	E. M. Hall	Village Beau	Sixth.
7.	Cow, 3 years or over—		
	H. Rees & Sons	Lady Cumberland	First.
	W. W. Brown	Irene Avalon	Second.
8.	Heifer, 2 years, under 3—		
	Anoka Farms	Maxwalton Missie 2nd	First.
	H. Rees & Sons	June Goods	Second.
	E. M. Hall	Hallwood Emma	Third.
	W. W. Brown	Christabel	Fourth.
	The Farmer Farm	Pleasant Mildred	Fifth.
	The Farmer Farm	Evening Star	Sixth.
9.	Heifer, senior yearling—		
	The Farmer Farm	Sittyton Anna	First.
	Purdy Bros	Countess Victoria	Second.
	The Farmer Farm	Maria	Third.
	Anoka Farms	Duchess of Gloster	Fourth.
	E. M. Hall	Hallwood Golddrop	Fifth.
	E. M. Hall	Choice Princess 3rd	Sixth.
10.	Heifer, junior yearling—		
	Purdy Bros	Monarch's Victoria	First.
	The Farmer Farm	Lancaster Duchess 7th	Second.
	Owen Kane	Isabella	Third.
	Owen Kane	Betty Dale	Fourth.
	Anoka Farms	Village Flower 2nd	Fifth.
	H. Rees & Sons	Fancy Goods	Sixth.
11.	Heifer, senior calf—		
	Owen Kane, Wisner, Neb	Sweet Afton 3rd	First.
	Anoka Farms, Waukesha, Wis	Augusta 112th	Second.
	H. Rees & Sons, Pilger, Neb	Blooming Violet	Third.
	Purdy Bros., Harris, Mo	Lovely Goods	Fourth.
	The Farmer Farm, Farmington, Minn	Village Blythesome	Fifth.
	E. M. Hall, Carthage, Mo	Hallwood Dot 3rd	Sixth.
12.	Heifer, junior calf—		
	Purdy Bros	Pauline Goods	First.
	Owen Kane	Wellington Goldie 2nd	Second.
	W. W. Brown	Laurel	Third.
	Anoka Farms	Village Flower 3rd	Fourth.
	H. Rees & Sons	Robertos Lady	Fifth.
	Anoka Farms	Fond Fanny	Sixth.
13.	Senior champion—		
	Anoka Farms	Village Denmark	First.
14.	Junior champion—		
	Owen Kane	Radium	First.
15.	Senior champion cow—		
	Anoka Farms	Maxwalton Missie	First.

Class.			Premium.
16.	Junion champion cow—		
	Purdy Bros	Monarch's Victoria	First.
17.	Grand champion bull—		
	Anoka Farms	Village Denmark	First.
18.	Grand champion female—		
	Purdy Bros	Monarch's Victoria	First.
19.	Aged herd—		
	Anoka Farms		First.
	H. Rees & Sons		Second.
	The Farmer Farm		Third.
	W. W. Brown		Fourth.
	E. M. Hall		Fifth.
20.	Young herd— .		
	Owen Kane		First.
	Purdy Bros		Second.
	H. Rees & Sons		Third.
	Anoka Farms		Fourth.
	The Farmer Farm		Fifth.
	E. M. Hall		Sixth.
21.	Calf herd—		
	Owen Kane		First.
	Purdy Bros		Second.
	H. Rees & Sons		Third.
	Anoka Farms		Fourth.
	E. M. Hall		Fifth.
	W. W. Brown		Sixth.
22.	Four animals, either sex, get of one sire—		
	Owen Kane		First.
	Anoka Farms		Second.
	H. Rees & Sons		Third.
	Purdy Bros		Fourth.
	The Farmer Farm		Fifth.
23.	Two animals, either sex, produce of one cow—		
	Purdy Bros		First.
	The Farmer Farm		Second.
	H. Rees & Sons		Third.
	Anoka Farms		Fourth.
	W. W. Brown		Fifth.

MISSOURI SHORTHORNS.

24.	Bull, 3 years or over	(No awards.)	
25.	Bull, 2 years, under 3—		
	E. M. Hall, Carthage, Mo	Princely Sultan	First.
26.	Bull, senior yearling—		
	Purdy Bros., Harris, Mo	Orange Goods	First.
27.	Bull, junior yearling—		
	N. H. Gentry, Sedalia, Mo	Grand Master	First.
	N. H. Gentry, Sedalia, Mo		Second.
28.	Bull, senior calf—		
	E. M. Hall	Village Flash	First.
	Purdy Bros	Grand Goods	Second.
29.	Bull, junior calf—		
	Purdy Bros	Cumberland Victor	First.
	E. M. Hall	Hallwood Count 2nd	Second.
30.	Cow, 3 years and over	(No awards.)	
31.	Heifer, 2 years, under 3—		
	E. M. Hall	Hallwood Emma 3rd	First.
32.	Heifer, senior yearling—		
	Purdy Bros	Countess Victoria	First.
	E. M. Hall	Hallwood Golddrop	Second.
33.	Heifer, junior yearling—		
	Purdy Bros	Monarch's Victoria	First.
	Purdy Bros	Sweet Blossom	Second.
34.	Heifer, senior calf—		
	Purdy Bros.	Lovely Goods	First.
	E. M. Hall	Hallwood Dot 3rd	Second.
35.	Heifer, junior calf—		
	Purdy Bros	Pauline Goods	First.

HEREFORDS.

36.	Bull, 3 years or over—		
	Warren T. McCray, Kentland, Ind	Corrector Fairfax	First.
	O. Harris, Harris, Mo	Prince Perfection	Second.
	Cyrus A. Tow, Norway, Iowa	Byron Fairfax	Third.

Class.			*Premium.*
37.	Bull, 2 years, under 3—		
	Warren T. McCray	Beau Fairfax	First.
	Warren T. McCray	Protector Fairfax	Second.
	W. H. Curtice, Eminence, Ky	Beau Perfection 15th	Third.
38.	Bull, senior yearling—		
	Overton Harris, Harris, Mo	Repeater 7th	First.
	W. H. Curtice, Eminence, Ky	Beau Perfection 24th	Second.
	Overton Harris	Gay Lad 9th	Third.
	Warren T. McCray	Crusader Fairfax	Fourth.
	W. A. Dallmeyer, Jefferson City, Mo	Vain Lad	Fifth.
39.	Bull, junior yearling—		
	Cyrus A. Tow	Fairview Prince	First.
	Overton Harris	Gay Lad 12th	Second.
	Cyrus A. Tow	Standard 6th	Third.
	W. A. Dallmeyer	Premier Donald	Fourth.
	F. T. Wadsworth & Sons, Monroe City, Mo	Woodrow Wilson	Fifth.
	F. T. Wadsworth & Sons, Monroe City, Mo	Beau Brae	Sixth.
40.	Bull, senior calf—		
	Warren T. McCray	King Fairfax	First.
	Overton Harris	Gay Lad 15th	Second.
	Cyrus A. Tow	Distinction 2nd	Third.
	W. H. Curtice	Beau Perfection 25th	Fourth.
	Warren T. McCray	Letham Fairfax	Fifth.
	W. A. Dallmeyer	Beau Dare	Sixth.
41.	Bull, junior calf—		
	Warren T. McCray	Superior Fairfax	First.
	W. H. Curtice	Beau Perfection 27th	Second.
	Cyrus A. Tow	Disturber, Jr	Third.
	Cyrus A. Tow	Distinction 4th	Fourth.
	W. A. Dallmeyer	Prince Dare	Fifth.
	Overton Harris	Gay Lad 23rd	Sixth.
42.	Cow, 3 years or over—		
	Warren T. McCray	Perfection Lass	First.
	Overton Harris	Disturber's Lassie 4th	Second.
	Warren T. McCray	Nora Fairfax	Third.
	Cyrus A. Tow	Miss Bren 29th	Fourth.
43.	Heifer, 2 years, under 3—		
	Cyrus A. Tow	Defender's Lassie 2nd	First.
	Warren T. McCray	Virginia Fairfax	Second.
	Overton Harris	Harris' Princess 215th	Third.
	Warren T. McCray	Celandine 2nd	Fourth.
	W. H. Curtice	Belle Perfection 19th	Fifth.
	W. H. Curtice	Belle Perfection 17th	Sixth.
44.	Heifer, senior yearling—		
	Warren T. McCray	Pearl Donald	First.
	Warren T. McCray	Joan Fairfax	Second.
	W. A. Dallmeyer	Grace Premier	Third.
	Cyrus A. Tow	Disturber's Lassie 6th	Fourth.
	Overton Harris	Miss Gay Lad 7th	Fifth.
	W. H. Curtice	Belle Donald 182nd	Sixth.
45.	Heifer, junior yearling—		
	Overton Harris	Miss Repeater 11th	First.
	Cyrus A. Tow	Disturber's Lassie 7th	Second.
	Warren T. McCray	Gertrude Fairfax	Third.
	Cyrus A. Tow	Disturber's Lassie 8th	Fourth.
	W. A. Dallmeyer	Dorothy Dimple	Fifth.
	W. H. Curtice	Belle Donald	Sixth.
46.	Heifer, senior calf—		
	Overton Harris	Miss Gay Lad 15th	First.
	W. H. Curtice	Belle Perfection 23rd	Second.
	Overton Harris	Miss Gay Lad 16th	Third.
	Cyrus A. Tow	Lady Standard	Fourth.
	Cyrus A. Tow	Disturber's Lassie	Fifth.
	Warren T. McCray	Margaret Fairfax	Sixth.
47.	Heifer, junior calf—		
	Overton Harris	Miss Perfection 6th	First.
	Warren T. McCray	Zelia Fairfax	Second.
	W. A. Dallmeyer	Dorothy Dare	Third.
	W. A. Dallmeyer	Dorothy Donald	Fourth.
48.	Senior champion bull—		
	Warren T. McCray	Corrector Fairfax	First.
49.	Junior champion bull—		
	Overton Harris	Repeater 7th	First.
50.	Senior champion cow—		
	Warren T. McCray	Perfection Lass	First.
51.	Junior champion heifer—		
	Overton Harris	Miss Repeater 11th	First.
52.	Grand champion bull—		
	Overton Harris	Repeater 7th	First.

Class.			Premium.
53.	Grand champion female—		
	Overton Harris	Miss Repeater 11th	First.
54.	Aged herd—		
	Warren T. McCray		First.
	Overton Harris		Second.
	Warren T. McCray		Third.
	Cyrus A. Tow		Fourth.
55.	Young herd—		
	Overton Harris		First.
	Cyrus A. Tow		Second.
	Warren T. McCray		Third.
	W. A. Dallmeyer		Fourth.
	W. H. Curtice		Fifth.
56.	Calf herd—		
	Overton Harris		First.
	Cyrus A. Tow		Second.
	Warren T. McCray		Third.
	W. H. Curtice		Fourth.
	W. A. Dallmeyer		Fifth.
57.	Four animals, either sex, get of one sire—		
	Warren T. McCray		First.
	Overton Harris		Second.
	Cyrus A. Tow		Third.
	W. H. Curtice		Fourth.
	Warren T. McCray		Fifth.
58.	Two animals, either sex, produce of one cow—		
	Overton Harris		First.
	Warren T. McCray		Second.
	W. H. Curtice		Third.
	W. H. Curtice		Fourth.
	Overton Harris		Fifth.

ABERDEEN ANGUS.

Class.			Premium.
59.	Bull, 3 years or over—		
	W. A. McHenry, Denison, Iowa	Erwin C	First.
	Omer Catterson, Maryville, Mo	Queen's Quality Lad	Second.
60.	Bull, 2 years, under 3—		
	Omer Catterson	Queen's Ito Lad	First.
	C. D. and E. F. Caldwell, Burlington Junction, Mo	Kiahoga	Second.
	R. M. Anderson & Son, Newell, Iowa	Enus 3rd	Third.
61.	Senior yearling bull—		
	C. D. and E. F. Caldwell	Ebony of A. 3rd	First.
	R. M. Anderson & Sons	Provo 2nd	Second.
	W. A. McHenry	Quality Prince 2nd	Third.
62.	Junior yearling bull—		
	C. D. and E. F. Caldwell	Quartermaster Ito	First.
	Omer Catterson	Blackbird Beverly 3rd	Second.
	R. M. Anderson & Sons	Enus 4th	Third.
63.	Senior bull calf—		
	R. M. Anderson & Sons	Prince of Elchies	First.
	C. D. and E. F. Caldwell	Blackcap Star	Second.
	W. A. McHenry	Elby of Denison	Third.
64.	Junior bull calf—		
	R. M. Anderson & Sons	Lord Melarvere	First.
	Omer Catterson	Even Ito	Second.
65.	Cow, 3 years or over—		
	W. A. McHenry	Blackcap McHenry 88th	First.
	R. M. Anderson & Sons	Pride of Blackstone	Second.
	C. D. and E. F. Caldwell	Pride Petite	Third.
66.	Cow or heifer, 2 years, under 3—		
	W. A. McHenry	Coquette McHenry 37th	First.
	R. M. Anderson & Sons	Key of Ind 4th	Second.
	C. D. and E. F. Caldwell	Blackbird Chloe 2nd	Third.
67.	Senior yearling heifer—		
	W. A. McHenry	Pride McHenry 109th	First.
	Omer Catterson	Maplehurst Pride 18th	Second.
	C. D. and E. F. Caldwell	Euto C	Third.
68.	Junior yearling heifer—		
	Omer Catterson	Queen of Maplehurst 25th	First.
	W. A. McHenry	Pride McHenry 114th	Second.
	R. M. Anderson & Sons	Jilt 167th	Third.
69.	Senior heifer calf—		
	R. M. Anderson & Sons	Eulina 28th	First.
	C. D. and E. F. Caldwell	Eritus	Second.
	W. A. McHenry	Pride McHenry 116th	Third.
	W. A. McHenry	Queen McHenry 58th	Fourth.

Class.			*Premium.*
70.	Junior heifer calf—		
	Omer Catterson	Ito's Pride C	First.
	R. M. Anderson & Sons	Jilt 70th	Second.
	C. D. and E. F. Caldwell	Pridecap Lady 2nd	Third.
71.	Senior champion bull—		
	W. A. McHenry	Erwin C	First.
72.	Junior champion bull—		
	C. D. and E. F. Caldwell	Ebony of A. 3rd	First.
73.	Senior champion cow—		
	W. A. McHenry	Blackcap McHenry 88th	First.
74.	Junior champion heifer—		
	W. A. McHenry, Denison, Iowa	Pride of McHenry 109th	First.
75.	Grand champion bull—		
	W. A. McHenry	Erwin C	First.
76.	Grand champion female—		
	W. A. McHenry	Blackcap McHenry 88th	First.
77.	Aged herd—		
	W. A. McHenry		First.
	C. D. and E. F. Caldwell, Burlington Junction, Mo		Second.
78.	Young herd—		
	R. M. Anderson & Sons, Newell, Iowa		First.
	W. A. McHenry		Second.
79.	Calf herd—		
	R. M. Anderson & Sons		First.
	Omer Catterson, Maryville, Mo		Second.
80.	Four animals, either sex, get of one sire—		
	W. A. McHenry		First.
	R. M. Anderson & Sons		Second.
81.	Two animals, either sex, produce of one cow—		
	R. M. Anderson & Sons		First.
	W. A. McHenry		Second.

GALLOWAYS.

Class.			*Premium.*
82.	Bull, 3 years or over—		
	S. M. Croft & Sons, Bluff City, Kan	Kingsley	First.
	Capital View Ranch, Silver Lake, Kan	Carnot	Second.
83.	Bull, 2 years, under 3—		
	Capital View Ranch	Casino	First.
84.	Senior yearling bull—		
	S. M. Croft & Sons	Cazonet	First.
85.	Junior yearling bull—		
	Capital View Ranch	Pilotte of C. V	First.
	S. M. Croft & Sons	Prince George, Jr	Second.
86.	Senior bull calf—		
	Capital View Ranch	Ocho of C. V	First.
	S. M. Croft & Sons	Ben	Second.
	Capital View Ranch	Pioneer of C. V	Third.
87.	Junior bull calf—		
	S. M. Croft & Sons	Havard	First.
	S. M. Croft & Sons	Joe of Bluff City	Second.
88.	Cow, 3 years or over—		
	Capital View Ranch	Daisy Dimple	First.
	S. M. Croft & Sons	Florence of Meadow Lawn	Second.
89.	Cow or heifer, 2 years, under 3—		
	Capital View Ranch	Nellie Melville	First.
	S. M. Croft & Sons	Clara of Maples 3rd	Second.
90.	Senior yearling heifer—		
	S. M. Croft & Sons	Ethel of Greenbush	First.
91.	Junior yearling heifer—		
	S. M. Croft & Sons	Ollie of Greenbush	First.
	S. M. Croft & Sons	Gretchen of Bluff City	Second.
	Capital View Ranch	Capital Bell	Third.
92.	Senior heifer calf—		
	Capital View Ranch, Silver Lake, Kan	Sunflower Maid of C. V	First.
	S. M. Croft & Sons, Bluff City, Kan	Violet of Bluff City	Second.
93.	Junior heifer calf—		
	Capital View Ranch	Mayflower of C. V	First.
	S. M. Croft & Sons	Florence of Bluff City	Second.
94.	Senior champion bull—		
	S. M. Croft & Sons	Kingsley	First.
95.	Junior champion bull—		
	S. M. Croft & Sons	Cazonet	First.
96.	Senior champion cow—		
	Capital View Ranch	Daisy Dimple	First.

Class.			*Premium.*
97.	Junior champion heifer—		
	S. M. Croft & Sons	Ollie of Greenbush	First.
98.	Grand champion bull—		
	S. M. Croft & Sons	Kingsley	First.
99.	Grand champion female—		
	Capital View Ranch	Daisy Dimple	First.
100.	Aged herd—		
	S. M. Croft & Sons		First.
	Capital View Ranch		Second.
101.	Young herd—		
	S. M. Croft & Sons		First.
	Capital View Ranch		Second.
102.	Calf herd—		
	S. M. Croft & Sons		First.
	Capital View Ranch		Second.
103.	Four animals, either sex, get of one sire—		
	Capital View Ranch		First.
	S. M. Croft & Sons		Second.
104.	Two animals, either sex, produce of one cow—		
	Capital View Ranch		First.
	S. M. Croft & Sons		Second.

FAT CATTLE DIVISION.

SHORTHORNS.

105	Steer or spayed heifer, 2 years, under 3—		
	W. W. Brown, Amenia, N. Dak.	Dick Turpin	First.
106.	Steer or spayed heifer, senior yearling—		
	W. W. Brown	Tommy	First.
107.	Steer or spayed heifer, junior yearling	(No awards.)	
108.	Steer or spayed heifer, senior calf—		
	University of Missouri, Columbia, Mo.	Secret	First.
	W. W. Brown	Young Harry	Second.
	E. M. Hall, Carthage, Mo.	Hallwood 2nd	Third.
109.	Steer or spayed heifer, junior calf	(No awards.)	
110.	Steer or spayed heifer champion—		
	University of Missouri	Secret	First.
111.	Champion group—		
	W. W. Brown		First.

HEREFORDS.

112.	Steer or spayed heifer, 2 years, under 3—		
	Cyrus A. Tow, Norway, Iowa	Bonnie Brae 140th	First.
	W. A. Dallmeyer, Jefferson City, Mo.	King Brummel	Second.
113.	Steer or spayed heifer, senior yearling—		
	Cyrus A. Tow	Standard 1st	First.
	Overton Harris, Harris, Mo.	Heir-at-Law 2nd	Second.
	W. A. Dallmeyer	Sure Shot	Third.
114.	Steer or spayed heifer, junior yearling—		
	University of Missouri, Columbia, Mo.	Beau Onward	First.
115.	Steer or spayed heifer, senior calf—		
	University of Missouri	Baxter	First.
	W. A. Dallmeyer	Major Dare	Second.
116.	Steer or spayed heifer, junior calf—		
	Cyrus A. Tow	General	First.
117.	Steer or spayed heifer, champion—		
	Cyrus A. Tow	Bonnie Brae	First.
118.	Champion group—		
	Cyrus A. Tow		First.
	W. A. Dallmeyer		Second.

ABERDEEN ANGUS.

119.	Steer or spayed heifer, 2 years, under 3—		
	University of Missouri	Blackward 2nd	First.
	C. D. and E. F. Caldwell, Burlington Junction, Mo.	Dr. Hendricks	Second.
120.	Steer or spayed heifer, senior yearling—		
	University of Missouri	Lord Roberts	First.
121.	Steer or spayed heifer, junior yearling—		
	University of Missouri	Queen's Councilor	First.
	R. M. Anderson & Sons, Newell, Iowa	Riverdale Perfection	Second.
122.	Steer or spayed heifer, senior calf—		
	University of Missouri	Prince of View Point 10th	First.
123.	Steer or spayed heifer, junior calf	(No awards.)	

Class.			*Premium.*
124.	Steer or spayed heifer, champion—		
	University of Missouri	Blackward 2nd	First.
125.	Champion group—		
	University of Missouri		First.

GALLOWAYS.

126.	Steer or spayed heifer, 2 years, under 3—		
	University of Missouri	Wordland	First.
127.	Steer or spayed heifer, senior yearling	(No awards.)	
128.	Steer or spayed heifer, junior yearling—		
	University of Missouri	Starland	First.
129.	Steer or spayed heifer, senior calf—		
	University of Missouri	Oakland	First.
130.	Steer or spayed heifer, junior calf	(No awards.)	
131.	Steer or spayed heifer, champion—		
	University of Missouri	Oakland	First.
132.	Champion group—		
	University of Missouri		First.

GRADES AND CROSSBREEDS.

133.	Steer or spayed heifer, 2 years, under 3—		
	Cyrus A. Tow, Norway, Iowa	Denver	First.
134.	Steer or spayed heifer, senior yearling	(No awards.)	
135.	Steer or spayed heifer, junior yearling—		
	Cyrus A. Tow	At Last	First.
	H. Rees & Sons, Pilger, Neb	Straight Goods	Second.
	E. M. Hall, Carthage, Mo	Billy	Third.
136.	Steer or spayed heifer, senior calf	(No awards.)	
137.	Steer or spayed heifer, junior calf—		
	Cyrus A. Tow	Archie	First.
138.	Steer or spayed heifer, champion—		
	Cyrus A. Tow	Denver	First.
139.	Champion group—		
	Cyrus A. Tow		First.
140.	Grand champion, steer or spayed heifer, any breed—		
	University of Missouri, Columbia, Mo	Secret	First.

DAIRY BREEDS.

JERSEYS.

141.	Bull, 3 years or over—		
	J. B. Smith, Platte City, Mo	Stockwell's Fern Lad	First.
	Chas. Romig, Dresden, Mo	Sedalia's Champion Lad	Second.
142.	Bull, 2 years old, under 3	(No awards.)	
143.	Bull, 1 year, under 2—		
	J. B. Smith	Stockwell's Champion	First.
	J. B. Smith	Warden's Oxford Lad	Second.
	Dr. D. R. Hill, Joplin, Mo	Fox's Plymouth Lad	Third.
144.	Bull calf, under 1 year—		
	J. B. Smith	Waterloo Boy	First.
	J. B. Smith	Warden's Butter Boy	Second.
	J. B. Smith	Stockwell's Silverine Boy	Third.
145.	Cow, 4 years and over—		
	J. B. Smith	Warden's Proud Beauty	First.
	Dr. D. R. Hill	Plymouth Springtime	Second.
	W. D. Fansler, Sedalia, Mo	Agatha's Eminent	Third.
146.	Cow, 3 years, under 4—		
	J. B. Smith	Belmont's Silverine	First.
	W. D. Fansler	Baby Fairfield	Second.
147.	Heifer, 2 years, under 3—		
	Dr. D. R. Hill	Majesty's Sweet Buttercup	First.
	J. B. Smith	King's May Fountain	Second.
148.	Heifer, 1 year, under 2—		
	J. B. Smith	Stockwell's Gem	First.
	J. B. Smith	Stockwell's Signet	Second.
	Dr. D. R. Hill	Fox's Plymouth Violet	Third.
149.	Heifer calf, under 1 year—		
	Dr. D. R. Hill	Fox's Plymouth Princess	First.
	J. B. Smith	Stockwell's Fluff	Second.
	J. B. Smith	Princess Lady 2nd	Third.
150.	Senior champion bull—		
	J. B. Smith	Stockwell's Fern Lad	First.
151.	Junior champion bull—		
	J. B. Smith	Waterloo Boy	First.
152.	Senior champion cow—		
	J. B. Smith	Warden's Proud Beauty	First.

Class.			*Premium.*
153.	Junior champion cow—		
	J. B. Smith	Stockwell's Gem	First.
154.	Grand champion bull—		
	J. B. Smith	Waterloo Boy	First.
155.	Grand champion female—		
	J. B. Smith	Warden's Proud Beauty	First.
156.	Exhibitor's herd—		
	J. B. Smith		First.
157.	Breeder's young herd—		
	J. B. Smith		First.
158.	Four animals, either sex, get of one sire—		
	J. B. Smith		First.
	Dr. D. R. Hill		Second.
159.	Two animals, either sex, produce of one cow—		
	Dr. D. R. Hill		First.
	J. B. Smith		Second.

HOLSTEIN-FRIESIAN.

160.	Bull, 3 years or over—		
	Iowana Farms, Davenport, Iowa	Ollie Johanna Sir Fayne	First.
161.	Bull, 2 years, under 3—		
	Iowana Farms	Oak DeKol Ollie Homestead	First.
	M. W. Downing & Bro., Waukesha, Wis.	Brookvale Ormsby Wastena	Second.
162.	Bull, 1 year, under 2—		
	M. W. Downing & Bro	Downing's Pontiac Butterman	First.
163.	Bull calf, under 1 year—		
	Iowana Farms	Iowana Sir Ollie	First.
	M. W. Downing & Bro	Downing's Pontiac Dairy Show	Second.
	Iowana Farms	Iowana Oak DeKol	Third.
164.	Cow, 4 years or over—		
	Iowana Farms	Minnie Stienstra 2nd	First.
	M. W. Downing & Bro	Oak Grove Thelma	Second.
	Iowana Farms	Queen Gretqui Lutske	Third.
165.	Cow, 3 years, under 4—		
	Iowana Farms	Star Watson Movie 3rd	First.
	Iowana Farms	Ollie Watson Johanna Prima Donna	Second.
166.	Heifer, 2 years, under 3—		
	Iowana Farms	Fryslan Waldorf	First.
	Iowana Farms	Johanna Fayne Pauline	Second.
	M. W. Downing & Bro	Queen Schillard 2nd	Third.
167.	Heifer, 1 year, under 2—		
	Iowana Farms	Iowana Colantha Larky	First.
	Iowana Farms	Iowana Colantha Lady	Second.
	M. W. Downing & Bro	Downing Pontiac Milway	Third.
168.	Heifer calf, under 1 year—		
	Iowana Farms, Davenport, Iowa	Iowana Countess Jessie	First.
	Iowana Farms, Davenport, Iowa	Iowana Lady Rouble	Second.
	M. W. Downing & Bro., Waukesha, Wis.	Downing Pontiac Pet	Third.
169.	Senior champion bull—		
	Iowana Farms	Oak DeKol Ollie Homestead	First.
170.	Junior champion bull—		
	Iowana Farms	Iowana Sir Ollie	First.
171.	Senior champion cow—		
	Iowana Farms	Minnie Stienstra 2nd	First.
172.	Junior champion cow—		
	Iowana Farms	Iowana Canter Jessie	First.
173.	Grand Champion Bull—		
	Iowana Farms	Oak DeKol Ollie Homestead	First.
174.	Grand champion female—		
	Iowana Farms	Minnie Stienstra 2nd	First.
175.	Exhibitor's herd—		
	Iowana Farms		First.
	Iowana Farms		Second.
176.	Breeder's young herd—		
	M. W. Downing & Bro		First.
177.	Four animals, either sex, get of one sire—		
	Iowana Farms		First.
	M. W. Downing & Bro		Second.
178.	Two animals, either sex, produce of one cow—		
	Iowana Farms		First.
	M. W. Downing & Bro		Second.

SWINE.

POLAND CHINA.

Class.		*Premium.*
1.	Boar, 2 years or over—	
	W. Z. Baker, Rich Hill, Mo	First.
	G. M. Hoadley, Sedalia, Mo	Second.
	John Gildow & Son, Jamesport, Mo	Third.
2.	Boar, 18 months, under 2 years—	
	W. Z. Baker	First.
	M. D. Porter, Vandalia, Mo	Second.
	John Gildow & Son	Third.
3.	Boar, 1 year, under 18 months—	
	H. T. Hall, Kirksville, Mo	First.
	J. R. Young, Richards, Mo	Second.
	S. Y. Burks, Bolivar, Mo	Third.
4.	Boar, 6 months, under 1 year—	
	M. D. Porter	First.
	John Gildow & Son	Second.
	S. Y. Burks	Third.
5.	Boar, under 6 months—	
	M. D. Porter	First.
	W. Z. Baker	Second.
	G. M. Hoadley	Third.
6.	Sow, 2 years old or over—	
	W. Z. Baker	First.
	S. Y. Burks	Second.
	G. M. Hoadley	Third.
7.	Sow, 18 months, under 2 years—	
	John Gildow & Son	First and second.
8.	Sow, 1 year, under 18 months—	
	S. Y. Burks	First and second.
	John Gildow & Son	Third.
9.	Sow, 6 months, under 1 year—	
	W. Z. Baker	First.
	G. M. Hoadley	Second.
	W. F. Wheaton, Dresden, Mo	Third.
10.	Sow, under 6 months—	
	Tom McKone, Monticello, Mo	First.
	G. M. Hoadley	Second.
	W. Z. Baker	Third.
11.	Champion boar, 1 year or over—	
	H. T. Hall	First.
12.	Champion boar, under 1 year—	
	M. D. Porter	First.
13.	Champion sow, 1 year or over—	
	W. Z. Baker	First.
14.	Champion sow, under 1 year—	
	Tom McKone	First.
15.	Grand champion boar, any age—	
	H. T. Hall	First.
16.	Grand champion sow, any age—	
	W. Z. Baker	First.
17.	Boar and three sows, over 1 year—	
	W. Z. Baker, Rich Hill, Mo	First.
	S. Y. Burks, Bolivar, Mo	Second.
18.	Boar and three sows, over 1 year, bred by exhibitor—	
	S. Y. Burks	First.
	John Gildow, Jamesport, Mo	Second.
19.	Boar and three sows, under 1 year—	
	Tom McKone, Monticello, Mo	First.
	G. M. Hoadley, Sedalia, Mo	Second.
20.	Boar and three sows, under 1 year, bred by exhibitor—	
	Tom McKone	First.
	G. M. Hoadley	Second.
21.	Four swine, produce of same sow—	
	W. Z. Baker	First.
	Tom McKone	Second.
22.	Four swine, get of same boar—	
	W. Z. Baker	First.
	M. D. Porter, Vandalia, Mo	Second.

DUROC-JERSEYS.

23.	Boar, 2 years or over—	
	Chas. L. Taylor, Olean, Mo	First.
	C. C. Boyd, Centralia, Mo	Second.
	Gertrude Crow, Hutchinson, Kan	Third.

Class.		*Premium.*
24.	Boar, 18 months, under 2 years—	
	C. C. Boyd	First.
	Gertrude Crow	Second.
	D. H. Emison, Napton, Mo	Third.
25.	Boar, 1 year, under 18 months—	
	J. L. Taylor, Olean, Mo	First.
	B. W. Harned, Beaman, Mo	Second.
	Gertrude Crow	Third.
26.	Boar, 6 months, under 1 year—	
	B. W. Harned	First.
	J. L. Taylor	Second.
27.	Boar, under 6 months—	
	McFarland Bros., Sedalia, Mo	First.
	Chas. L. Taylor, Olean, Mo	Second and third.
28.	Sow, 2 years or over—	
	Chas. W. Finley, Otterville, Mo	First.
	Chas. L. Taylor	Second.
	Gertrude Crow	Third.
29.	Sow, 18 months, under 2 years—	
	J. L. Taylor	First.
	Gertrude Crow	Second.
30.	Sow, 1 year, under 18 months—	
	Gertrude Crow	First and second.
	Chas. L. Taylor	Third.
31.	Sow, 6 months, under 1 year—	
	B. W. Harned	First and third.
	Chas. L. Taylor	Second.
32.	Sow, under 6 months—	
	Gertrude Crow	First.
	Chas. L. Taylor	Second.
	McFarland Bros	Third.
33.	Champion boar, 1 year or over—	
	Chas. L. Taylor, Olean, Mo	First.
34.	Champion boar, under 1 year—	
	B. W. Harned, Beaman, Mo	First.
35.	Champion sow, 1 year or over—	
	Chas. W. Finley, Otterville, Mo	First.
36.	Champion sow, under 1 year—	
	B. W. Harned	First.
37.	Grand champion boar, any age—	
	Chas. L. Taylor	First.
38.	Grand champion sow, any age—	
	Chas. W. Finley	First.
39.	Boar and three sows, over 1 year—	
	Chas. L. Taylor	First.
	Gertrude Crow, Hutchinson, Kan	Second.
40.	Boar and three sows, over 1 year, bred by exhibitor—	
	Gertrude Crow	First.
41.	Boar and three sows, under 1 year—	
	B. W. Harned	First.
	Chas. L. Taylor	Second.
42.	Boar and three sows, under 1 year, bred by exhibitor—	
	B. W. Harned	First.
	Chas. L. Taylor	Second.
43.	Four swine, produce of same sow—	
	B. W. Harned	First.
	Chas. L. Taylor	Second.
44.	Four swine, get of same boar—	
	B. W. Harned	First.
	Chas. L. Taylor	Second.
45.	Special—herd, under 1 year—	
	B. W. Harned	First.
	Chas. L. Taylor	Second.
46.	Special—herd, 1 year or over	(No awards.)
47.	Special—herd, under 1 year, bred by exhibitor—	
	B. W. Harned	First.
	Chas. L. Taylor	Second.
48.	Special—boar and three sows, owned by exhibitor—	
	Chas. L. Taylor	First.
	B. W. Harned	Second.
	McFarland Bros	Third.
48a.	Special—young herd—	
	B. W. Harned	First.
	Chas. L. Taylor	Second.
	McFarland Bros	Third.

BERKSHIRES.

Class.		*Premium.*
49.	Boar, 2 years or over—	
	Iowana Farms, Davenport, Iowa	First.
50.	Boar, 18 months, under 2 years—	
	Ralph Creighton, Creighton, Mo	First.
51.	Boar, 1 year, under 18 months—	
	Iowana Farms	First.
52.	Boar, 6 months, under 1 year—	
	N. H. Gentry & Son, Sedalia, Mo	First.
	Iowana Farms, Davenport, Iowa	Second and third.
53.	Boar, under 6 months—	
	S. Y. Burks, Bolivar, Mo	First.
	Ralph Creighton, Creighton, Mo	Second and third.
54.	Sow, 2 years or over—	
	Iowana Farms	First and second.
55.	Sow, 18 months, under 2 years—	
	N. H. Gentry & Son	First.
	Iowana Farms	Second and third.
56.	Sow, 1 year, under 18 months—	
	Iowana Farms	First, second and third.
57.	Sow, 6 months, under 1 year—	
	N. H. Gentry & Son	First, second and third.
58.	Sow, under 6 months—	
	Ralph Creighton	First and second.
	S. Y. Burks	Third.
59.	Champion boar, 1 year or over—	
	Iowana Farms	First.
60.	Champion boar, under 1 year—	
	N. H. Gentry & Son	First.
61.	Champion sow, 1 year or over—	
	Iowana Farms	First.
62.	Champion sow, under 1 year—	
	N. H. Gentry & Son	First.
63.	Grand champion boar, any age—	
	N. H. Gentry & Son	First.
64.	Grand champion sow, any age—	
	Iowana Farms	First.
65.	Boar and three sows, over 1 year—	
	Iowana Farms	First and second.
66.	Boar and three sows, over 1 year, bred by exhibitor. (No awards.)	
67.	Boar and three sows, under 1 year—	
	N. H. Gentry & Son	First.
	Iowana Farms	Second.
68.	Boar and three sows, under 1 year, bred by exhibitor—	
	N. H. Gentry & Son	First.
	Iowana Farms	Second.
69.	Four swine, produce of same sow—	
	N. H. Gentry & Son	First.
	S. Y. Burks	Second.
70.	Four swine, get of same boar—	
	N. H. Gentry & Son	First.
	Iowana Farms	Second.
71.	Special—Boar and three sows, under 1 year. (No awards.)	

CHESTER WHITES.

72.	Boar, 2 years or over—	
	John W. Buxton, Nelson, Mo	First.
	Thos. F. Kent, Walnut, Iowa	Second and third.
73.	Boar, 18 months, under 2 years—	
	Thos. F. Kent, Walnut, Iowa	First.
74.	Boar, 1 year, under 18 months—	
	Thos. F. Kent	First.
	John W. Buxton, Nelson, Mo	Second.
	W. W. Waltmire, Peculiar, Mo	Third.
75.	Boar, under 6 months—	
	Thos. F. Kent	First.
	John W. Buxton	Second.
	J. T. Nunnelly, Readsville, Mo	Third.
76.	Boar, under 6 months—	
	J. T. Nunnelly	First and second.
	Thos. F. Kent	Third.
77.	Sow, 2 years or over—	
	Thos. F. Kent	First and second.
	W. W. Waltmire	Third.

Class.		*Premium.*
78.	Sow, 18 months, under 2 years—	
	John W. Buxton	First.
	Thos. F. Kent	Second.
79.	Sow, 1 year, under 18 months—	
	Thos. F. Kent	First and third.
	John W. Buxton	Second.
80.	Sow, 6 months, under 1 year—	
	Thos. F. Kent	First, second and third.
81.	Sow, under 6 months—	
	J. T. Nunnelly	First, second and third.
82.	Champion boar, 1 year or over—	
	John W. Buxton	First.
83.	Champion boar, under 1 year—	
	J. T. Nunnelly	First.
84.	Champion sow, 1 year or over—	
	Thos. F. Kent	First.
85.	Champion sow, under 1 year—	
	J. T. Nunnelly	First.
86.	Grand champion boar, any age—	
	John W. Buxton	First.
87.	Grand champion sow, any age—	
	Thos. F. Kent	First.
88.	Boar and three sows, over 1 year—	
	Thos. F. Kent	First.
	John W. Buxton	Second.
89.	Boar and three sows, over 1 year, bred by exhibitor—	
	Thos. F. Kent	First.
	John W. Buxton	Second.
90.	Boar and three sows, under 1 year—	
	J. T. Nunnelly	First.
	Thos. F. Kent	Second.
91.	Boar and three sows, under 1 year, bred by exhibitor—	
	J. T. Nunnelly	First.
	Thos. F. Kent	Second.
92.	Four swine, produce of same sow—	
	Thos. F. Kent	First.
	J. T. Nunnelly	Second.
93.	Four swine, get of same boar—	
	Thos. F. Kent	First and second.
94.	O. I. C. special—Boar, 6 months, under 1 year—	
	J. T. Nunnelly	First.
95.	O. I. C. special—Sow, 6 months, under 1 year—	
	W. W. Waltmire	First.
96.	O. I. C. special—Boar, under 6 months—	
	J. T. Nunnelly	First.
97.	O. I. C. special—Sow, under 6 months—	
	J. T. Nunnelly	First.
98.	O. I. C. special—Grand champion boar.... (No awards.)	
99.	O. I. C. special—Grand champion sow..... (No awards.)	
	HAMPSHIRE.	
100.	Boar, 2 years or over—	
	W. J. Brinigar & Son, Blythedale, Mo	First and third.
	Roy E. Fisher, Winside, Neb	Second.
101.	Boar, 18 months, under 2 years—	
	Roy E. Fisher	First and third.
	W. J. Brinigar & Son	Second.
102.	Boar, 1 year, under 18 months—	
	W. J. Brinigar & Son	First.
	Roy E. Fisher	Second.
103.	Boar, 6 months, under 1 year—	
	W. J. Brinigar & Son	First and third.
	Roy E. Fisher	Second.
104.	Boar, under 6 months—	
	G. S. Lawson, Ravenwood, Mo	First.
	W. J. Brinigar	Second.
	Roy E. Fisher	Third.
105.	Sow, 2 years or over—	
	W. J. Brinigar	First and second.
	Roy E. Fisher	Third.
106.	Sow, 18 months, under 2 years—	
	W. J. Brinigar	First.
	Roy E. Fisher	Second.
107.	Sow, 1 year, under 18 months—	
	W. J. Brinigar	First.
	Roy E. Fisher	Second and third.

Class.		*Premium*
108.	Sow, 6 months, under 1 year—	
	Roy E. Fisher	First.
	W. J. Brinigar	Second and third.
109.	Sow, under 6 months—	
	W. J. Brinigar	First.
	G. S. Lawson	Second.
	Roy E. Fisher	Third.
110.	Champion boar, 1 year or over—	
	W. J. Brinigar	First.
111.	Champion boar, under 1 year—	
	G. S. Lawson	First.
112.	Champion sow, 1 year or over—	
	W. J. Brinigar	First.
113.	Champion sow, under 1 year—	
	Roy E. Fisher	First.
114.	Grand champion boar, any age—	
	W. J. Brinigar	First.
115.	Grand champion sow, any age—	
	W. J. Brinigar	First.
116.	Boar and three sows, over 1 year—	
	W. J. Brinigar	First.
	Roy E. Fisher	Second.
117.	Boar and three sows, over 1 year, bred by exhibitor—	
	W. J. Brinigar	First.
	Roy E. Fisher	Second.
118.	Boar and three sows, under 1 year—	
	W. J. Brinigar	First.
	Roy E. Fisher	Second.
119.	Boar and three sows, under 1 year, bred by exhibitor—	
	W. J. Brinigar	First.
	Roy E. Fisher	Second.
120.	Four swine, produce of same sow—	
	W. J. Brinigar	First.
	Roy E. Fisher	Second.
121.	Four swine, get of same boar—	
	W. J. Brinigar	First and second.
122.	Special—Four pigs, either sex, under 6 months—	
	G. S. Lawson	First.
	W. J. Brinigar	Second.

YORKSHIRE.

Class.		*Premium*
123.	Boar, 2 years or over	(No awards.)
124.	Boar, 18 months, under 2 years	(No awards.)
125.	Boar, 1 year, under 18 months	(No awards.)
126.	Boar, 6 months, under 1 year	(No awards.)
127.	Boar, under 6 months—	
	John Gildow & Sons, Jamesport, Mo	First.
128.	Sow, 2 years or over—	
	John Gildow & Sons	First.
129.	Sow, 18 months, under 2 years	(No awards.)
130.	Sow, 1 year, under 18 months	(No awards.)
131.	Sow, 6 months, under 1 year—	
	John Gildow & Sons	First.
132.	Sow, under 6 months—	
	John Gildow & Sons	First and second.
133.	Champion boar, 1 year or over	(No awards.)
134.	Champion boar, under 1 year—	
	John Gildow & Sons	First.
135.	Champion sow, 1 year or over—	
	John Gildow & Sons	First.
136.	Champion sow, under 1 year—	
	John Gildow & Sons	First.
137.	Grand champion boar, any age—	
	John Gildow & Sons	First.
138.	Grand champion sow, any age—	
	John Gildow & Sons	First.
139.	Boar and three sows, over 1 year	(No awards.)
140.	Boar and three sows, over 1 year, bred by exhibitor.	(No awards.)
141.	Boar and three sows, under 1 year—	
	John Gildow & Sons	First.
142.	Boar and three sows, under 1 year, bred by exhibitor.	(No awards.)
143.	Four swine, produce of same sow	(No awards.)
144.	Four swine, get of same boar—	
	John Gildow & Sons	First.

MULE FOOT.

Class.		Premium.
145.	Boar, 2 years or over (No awards.)	
146.	Boar, 18 months, under 2 years (No awards.)	
147.	Boar, 1 year, under 18 months (No awards.)	
148.	Boar, 6 months, under 1 year—	
	J. G. Wetzel, Lewistown, Mo	First.
149.	Boar, under 6 months—	
	J. G. Wetzel	First.
150.	Sow, 2 years or over (No awards.)	
151.	Sow, 18 months, under 2 years—	
	J. W. Disinger, Elston, Mo	First.
152.	Sow, 1 year, under 18 months—	
	J. G. Wetzel	First.
153.	Sow, 6 months, under 1 year—	
	J. W. Disinger	First.
	J. G. Wetzel	Second.
154.	Sow, under 6 months (No awards.)	
155.	Champion boar, 1 year or over (No awards.)	
156.	Champion boar, under 1 year—	
	J. G. Wetzel	First.
157.	Champion sow, 1 year or over—	
	J. W. Disinger	First.
158.	Champion sow, under 1 year—	
	J. W. Disinger	First.
159.	Grand champion boar, any age—	
	J. G. Wetzel	First.
160.	Grand champion sow, any age—	
	J. W. Disinger	First.

SHEEP.

SHROPSHIRES.

1.	Ram, 2 years or over—	
	Geo. McKerrow & Son, Pewaukee, Wis	First and second.
	Anoka Farms, Waukesha, Wis	Third.
2.	Ram, 1 year, under 2—	
	Anoka Farms	First.
	Geo. McKerrow & Son	Second and third.
3.	Ram lamb, under 1 year—	
	Anoka Farms	First.
	Geo. McKerrow & Son	Second.
	Geo. Allen & Son, Lexington, Neb	Third.
4.	Ewe, 2 years or over—	
	Geo. McKerrow & Son	First and second.
	Anoka Farms	Third.
5.	Ewe, 1 year, under 2—	
	Geo. McKerrow & Son	First and second.
	Anoka Farms	Third.
6.	Ewe lamb, under 1 year—	
	Anoka Farms	First.
	Geo. McKerrow & Son	Second and third.
7.	Flock—	
	Geo. McKerrow & Son	First.
	Anoka Farms	Second.
8.	Pen—	
	J. O. Groves, Tipton, Mo	First.
	Geo. Allen & Son	Second.
9.	Champion ram, any age—	
	Geo. McKerrow	First.
10.	Champion ewe, any age—	
	Geo. McKerrow	First.
Special.	Flock of Missouri Shropshires—	
	J. O. Groves, Tipton, Mo	First.
Special.	Ram, 2 years or over—	
	J. O. Groves	First.
	W. S. and G. V. Sneed, Sedalia, Mo	Second.
Special.	Ram, 1 year, under 2—	
	Geo. McKerrow & Son	First.
	J. O. Groves	Second.
Special.	Ram lamb—	
	J. O. Groves	First, second and third.
Special.	Ewe, 1 year, under 2—	
	W. S. and G. V. Sneed	First and second.

Class.		*Premium.*
Special.	Ewe lamb—	
	J. O. Groves	First, second and third.
Special.	Ram, any age—	
	Geo. McKerrow	First.
Special.	Ewe, any age—	
	J. O. Groves	First.
Special.	Pen of four lambs—	
	J. O. Groves	First.

OXFORDS.

Class.		*Premium.*
11.	Ram, 2 years or over—	
	Geo. McKerrow & Son, Pewaukee, Wis	First and second.
	T. J. Burris, Prairie Home, Mo	Third.
12.	Ram, 1 year, under 2—	
	Geo. McKerrow & Son	First and second.
	Geo. Allen & Son, Lexington, Neb	Third.
13.	Ram lamb, under 1 year—	
	Geo. McKerrow & Son	First.
	T. J. Burris	Second and third.
14.	Ewe, 2 years or over—	
	Geo. McKerrow & Son	First.
	Geo. Allen & Son	Second and third.
15.	Ewe, 1 year, under 2—	
	Geo. McKerrow & Son	First and second.
	Geo. Allen & Son	Third.
16.	Ewe lamb, under 1 year—	
	Geo. McKerrow & Son	First and second.
	T. J. Burris	Third.
17.	Flock—	
	Geo. McKerrow & Son	First and second.
18.	Pen—	
	T. J. Burris	First.
	Geo. Allen & Son	Second.
19.	Champion ram, any age—	
	Geo. McKerrow & Son	First.
20.	Champion ewe, any age—	
	Geo. McKerrow & Son	First.
Special.	Yearling ram (No award.)	
Special.	Yearling ewe (No award.)	
Special.	Four lambs, either sex (No award.)	

SOUTHDOWNS.

Class.		*Premium.*
21.	Ram, 2 years or over—	
	Geo. Allen & Son	First and second.
	W. W. Waltmire, Peculiar, Mo	Third.
22.	Ram, 1 year, under 2—	
	Geo. Allen & Son	First, second and third.
23.	Ram lamb, under 1 year—	
	W. W. Waltmire	First.
	Geo. Allen & Son	Second and third.
24.	Ewe, 2 years or over—	
	Geo. Allen & Son	First and second.
	W. W. Waltmire	Third.
25.	Ewe, 1 year, under 2—	
	Geo. Allen & Son	First and second.
	W. W. Waltmire	Third.
26.	Ewe lamb, under 1 year—	
	Geo. Allen & Son	First and second.
	W. W. Waltmire	Third.
27.	Flock—	
	Geo. Allen & Son	First.
	W. W. Waltmire	Second.
28.	Pens—	
	Geo. Allen & Son	First.
28a.	Champion ram, any age—	
	Geo. Allen & Son	First.
28b.	Champion ewe, any age—	
	Geo. Allen & Son	First.

HAMPSHIRES.

Class.		*Premium.*
29.	Ram, 2 years or over—	
	Geo. Allen & Son	First.
	Sherwood Bros., Shelbyville, Mo	Second and third.

Class.		*Premium.*
30.	Ram, 1 year, under 2—	
	Sherwood Bros	First and second.
	Geo. Allen & Son	Third.
31.	Ram lamb, under 1 year—	
	Sherwood Bros	First and second.
	Geo. Allen & Son	Third.
32.	Ewe, 2 years or over—	
	Geo. Allen & Son	First and second.
	W. W. Waltmire	Third.
33.	Ewe, 1 year, under 2—	
	Geo. Allen & Son	First and second.
	Sherwood Bros	Third.
34.	Ewe lamb, under 1 year—	
	Geo. Allen & Son	First.
	Sherwood Bros	Second and third.
35.	Flock—	
	Geo. Allen & Son	First.
	Sherwood Bros	Second.
36.	Pens—	
	Sherwood Bros	First and second.
36a.	Champion ram, any age—	
	Geo. Allen & Son	First.
36b.	Champion ewe, any age—	
	Geo. Allen & Son	First.
Special.	Flock—	
	Sherwood Bros	First and second.

COTSWOLD.

Class.		*Premium.*
37.	Ram, 2 years or over—	
	Anoka Farms	First and second.
	Tom Groves, Tipton, Mo	Third.
38.	Ram, 1 year, under 3—	
	Anoka Farms	First and second.
	Tom Groves	Third.
39.	Ram lamb, under 1 year—	
	Anoka Farms	First and second.
	Tom Groves	Third.
40.	Ewe, 2 years or over—	
	Anoka Farms	First and second.
	Tom Groves	Third.
41.	Ewe, 1 year, under 2—	
	Anoka Farms	First.
	Tom Groves	Second and third.
42.	Ewe lamb, under 1 year—	
	Anoka Farms	First and second.
	Tom Groves	Third.
43.	Flock—	
	Anoka Farms	First.
	Tom Groves	Second.
44.	Pens—	
	Tom Groves	First.
	S. H. Groves, Tipton, Mo	Second.
45.	Champion ram, any age—	
	Anoka Farms	First.
46.	Champion ewe, any age—	
	Anoka Farms	First.

RAMBOUILLET.

Class.		*Premium.*
47.	Ram, 2 years or over—	
	F. S. King Bros., Laramie, Wyo	First and second.
	F. W. Cook, West Mansfield, Ohio	Third.
48.	Ram, 1 year, under 2—	
	F. W. Cook	First.
	F. S. King Bros	Second and third.
49.	Ram lamb, under 1 year—	
	F. S. King Bros	First, second and third
50.	Ewe, 2 years or over—	
	F. S. King Bros	First and second.
	F. W. Cook	Third.
51.	Ewe, 1 year, under 2—	
	F. S. King Bros	First, second and third.
52.	Ewe lamb, under 1 year—	
	F. W. Cook	First.
	F. S. King Bros	Second and third.

Class.		*Premium.*
53.	Flock—	
	F. S. King Bros.	First and second.
54.	Pens—	
	F. S. King Bros.	First.
	F. W. Cook	Second.
55.	Champion ram, any age—	
	F. S. King Bros.	First.
56.	Champion ewe, any age—	
	F. S. King Bros.	First.

DELAINE MERINOS.

57.	Ram, 2 years or over—	
	Uriah Cook & Son, Peoria, Ohio	First and second.
	W. N. Cook & Son, New London, Ohio	Third.
58.	Ram, 1 year, under 2—	
	W. N. Cook & Son	First, second and third.
59.	Ram lamb, under 1 year—	
	W. N. Cook & Son	First and third.
	David K. Bell, Brighton Station, N. Y.	Second.
60.	Ewe, 2 years or over—	
	Uriah Cook & Son	First.
	David K. Bell	Second.
	W. N. Cook & Son	Third.
61.	Ewe, 1 year, under 2—	
	W. N. Cook & Son	First, second and third.
62.	Ewe lamb, under 1 year—	
	W. N. Cook & Son	First and second.
	Uriah Cook & Son	Third.
63.	Flock—	
	Uriah Cook & Son	First.
	W. N. Cook & Son	Second.
64.	Pens—	
	W. N. Cook & Son	First.
	Uriah Cook & Son	Second.
65.	Champion ram, any age—	
	Uriah Cook & Son	First.
66.	Champion ewe, any age—	
	Uriah Cook & Son	First.

AMERICAN MERINO.

67.	Ram, 2 years or over—	
	David K. Bell	First and second.
	Uriah Cook & Son	Third.
68.	Ram, 1 year, under 2—	
	David K. Bell	First and third.
	Clarence W. Barker, Spencerport, N. Y.	Second.
69.	Ram lamb, under 1 year—	
	Clarence W. Barker	First and third.
	David K. Bell	Second.
70.	Ewe, 2 years or over—	
	David K. Bell	First and second.
	Clarence W. Barker	Third.
71.	Ewe, 1 year, under 2—	
	David K. Bell	First, second and third.
72.	Ewe lamb, under 1 year—	
	David K. Bell	First and second.
	Clarence W. Barker	Third.
73.	Flock—	
	David K. Bell	First.
	Clarence W. Barker	Second.
74.	Pens—	
	David K. Bell	First.
	Clarence W. Barker	Second.
75.	Champion ram, any age—	
	David K. Bell	First.
76.	Champion ewe, any age—	
	David K. Bell	First.

MISSOURI SHEEP.

SHROPSHIRES.

Class.		*Premium.*
77.	Ram, 2 years or over—	
	J. O. Groves, Tipton, Mo	First and second.
	W. S. and G. V. Sneed, Sedalia, Mo	Third.
78.	Ram, 1 year, under 2—	
	J. O. Groves	First and second.
	W. S. and G. V. Sneed	Third.
79.	Ram lamb, under 1 year—	
	J. O. Groves, Tipton, Mo	First, second and third.
80.	Ewe, 2 years or over—	
	J. O. Groves	First and third.
	W. S. and G. V. Sneed, Sedalia, Mo	Second.
81.	Ewe, 1 year, under 2—	
	J. O. Groves	First.
	W. S. and G. V. Sneed	Second.
82.	Ewe lamb, under 1 year—	
	J. O. Groves	First, second and third.
83.	Flock—	
	J. O. Groves	First.
84.	Champion ram, any age—	
	J. O. Groves	First.
85.	Champion ewe, any age—	
	J. O. Groves	First.

OXFORDS.

86.	Ram, 2 years or over—	
	T. J. Burris, Prairie Home, Mo	First and third.
	W. W. Waltmire, Peculiar, Mo	Second.
87.	Ram, 1 year, under 2—	
	T. J. Burris	First.
	W. W. Waltmire	Second and third.
88.	Ram lamb, under 1 year—	
	T. J. Burris	First and second.
	W. W. Waltmire	Third.
89.	Ewe, 2 years or over—	
	T. J. Burris	First, second and third.
90.	Ewe, 1 year, under 2—	
	T. J. Burris	First and third.
	W. W. Waltmire	Second.
91.	Ewe lamb, under 1 year—	
	T. J. Burris	First and third.
	W. W. Waltmire	Second.
92.	Flock—	
	T. J. Burris	First and second.
93.	Champion ram, any age—	
	T. J. Burris	First.
94.	Champion ewe, any age—	
	T. J. Burris	First.

HAMPSHIRES.

95.	Ram, 2 years or over—	
	Sherwood Bros., Shelbyville, Mo.	First and second.
	W. W. Waltmire	Third.
96.	Ram, 1 year, under 2—	
	Sherwood Bros	First, second and third.
97.	Ram lamb, under 1 year—	
	Sherwood Bros	First, second and third.
98.	Ewe, 2 years or over—	
	W. W. Waltmire	First.
	Sherwood Bros	Second and third.
99.	Ewe, 1 year, under 2—	
	Sherwood Bros	First and third.
	W. W. Waltmire	Second.
100.	Ewe lamb, under 1 year—	
	Sherwood Bros	First, second and third.
101.	Flock—	
	Sherwood Bros	First and second.
102.	Champion ram, any age—	
	Sherwood Bros	First.
103.	Champion ewe, any age—	
	Sherwood Bros	First.

COTSWOLDS.

Class.		*Premium.*
104.	Ram, 2 years or over—	
	Tom Groves, Tipton, Mo	First, second and third.
105.	Ram, 1 year, under 2—	
	Tom Groves	First.
	S. H. Groves, Tipton, Mo	Second and third.
106.	Ram lamb, under 1 year—	
	Tom Groves	First, second and third.
107.	Ewe, 2 years or over—	
	Tom Groves	First, second and third.
108.	Ewe, 1 year, under 2—	
	Tom Groves	First and second.
	S. H. Groves	Third.
109.	Ewe lamb, under 1 year—	
	Tom Groves	First, second and third.
110.	Flock—	
	Tom Groves	First.
	S. H. Groves	Second.
111.	Champion ram, any age—	
	Tom Groves	First.
112.	Champion ewe, any age—	
	Tom Groves	First.

IN MULES MISSOURI STANDS AT THE HEAD—THE ONLY SAFE PLACE.

ANNUAL DETAILED REPORT OF STATE VETERINARIAN AND DEPUTIES FOR YEA.. DECEMBER 31, 1912, TO DECEMBER 31, 1913.

ANNUAL REPORT OF DR. D. F. LUCKEY, STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
L. D. Baker	Sikeston	Application	March 5	8 cattle	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. S. SHELDON, STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Mrs. M. L. Mael	Sarcoxie	Return visit	January 25	Horses	Suspected glanders	Released.
Oscar Rusk	McCredie	By phone	February 13	70 sheep	Scabies	Quarantined.
John P. Fenton	Columbia	Application	February 18	1 cow	Tuberculosis	Quarantined.
Still & Laughlin	Kirksville	Application	March 4	24 cattle	Tuberculosis	Quarantined.
J. W. Braschler	Pratt	Personal application	March 21	1 horse	Glanders	Quarantined.
H. T. Hook	Columbia	Personal application	April 11	2 cows	Tuberculosis	Quarantined.
I. T. Van Note	Mexico	Application	April 22	45 cows	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. W. F. BERRY, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Geo. Pflug	Joplin	In practice	May 21	1 cow	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. S. BLACK, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Ed Cox	Chula	Petition	October 27	6 horses	Anemia	Not contagious.

ANNUAL REPORT OF DR. HORACE BRADLEY, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Wm. N. Morris	Bowen	In practice	December 24	1 horse	Glanders	Quarantined.
Aaron Stone	Chilhowee	Dr. Sheldon	February 25	105 calves	Hemorrhagic septicaemia	Isolated.
B. Lewis	Blairstown	Dr. Sheldon	February 25	53 calves	Hemorrhagic septicaemia	Isolated.
Thos. Swindle	Blairstown	Dr. Sheldon	February 25	40 calves	Hemorrhagic septicaemia	Isolated.
I. M. McDaniels	Montreal	Dr. Sheldon	May 23	1 horse	Suspected glanders	Held under observation.
Thos. Proffit	Windsor	In practice	November 12	1 horse	Glanders	Quarantined.

ANNUAL REPORT OF DR. E. BRAINERD, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Miller & Sons	Granger	In practice	December 23	1 bull	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. L. D. BROWN, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
C. C. Grimes	Hamilton	Application	February 5	1 cow	Tuberculosis	Quarantined.
Henry Gee	Hamilton	Application	March 12	1 bull	Suspected tuberculosis	Quarantined.
F. W. Niermann	Osborn	Application	March 15	3 cows	Suspected tuberculosis	Quarantined.
S. R. Traschel	Helena	Application	March 17	1 cow	Tuberculosis	Quarantined.
W. S. Snyder	Kirkwood	Application	April 15	8 cattle	Tuberculosis	Quarantined.
Mrs. W. H. Trimble	Doniphan	Tick eradication work	June 10	3 cattle	Texas fever	Quarantined.
J. Glindinning	Harviell	Tick eradication work	November 4	1 cow	Texas fever	Quarantined.
John Mangold	Harviell	Tick eradication work	November 4	29 cattle	Texas fever	Quarantined.
H. H. Bellows	Maryville	Dr. Luckey	November 26	1 cow	Tuberculosis	Quarantined.
C. E. Sackman	Cowgill	Application	December 12	2 cows	Tuberculosis	Quarantined.
John Farmer	Cowgill	Application	December 13	1 cow	Tuberculosis	Quarantined.
G. D. Harle	Cowgill	Application	December 20	1 cow	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. F. M CAHILL, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
C. F. Mason	St. Joseph	Application	January 26	1 cow	Tuberculosis	Quarantined.
Herman Schumaker	Saxton	Application	January 26	2 cattle	Tuberculosis	Quarantined.
Mrs. Caroline Keller	St. Joseph	Application	February 9	1 horse	Glanders	Quarantined.
C. W. Clouser.	St. Joseph	Application	April 21	2 cows	Tuberculosis	Quarantined.
Herman Schumaker	St. Joseph	Application	May 5	1 cow	Tuberculosis	Quarantined.
C. Hoffman	St. Joseph	Application	May 25	1 cow	Tuberculosis	Quarantined.
Arch Campbell	Langdon	Application	July 10	2 horses	Glanders	Quarantined.
J. W. Allnut	St. Joseph	Application	November 7	2 cows	Tuberculosis	Quarantined.
Western Dairy Co	St. Joseph	Application	November 7	1 cow	Tuberculosis	Quarantined.
H. H. Haggard	St. Joseph	Application	November 13.	1 cow	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. F. L. CISSELL, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
W. H. Mission	Perryville	Application	June 10	1 cow	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. L. G. CLARK, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
C. H. Milsen	Iantha	Dr. Sheldon	May 26	2 horses	Suspected glanders	Held under observation.
John Gaston	Iantha	Dr. Sheldon	July 7	1 horse	Glanders	Quarantined.
J. G. Marlow	Liberal	In practice	July 7	2 horses	Glanders	Quarantined.
Earl Strader	Rich Hill	Dr. Sheldon	July 18	1 horse	Eczema	Advised treatment.
Adam Seelinger	Rich Hill	Dr. Luckey	October 23	1 horse	Suspected glanders	Not affected.
J. W. Swop	Rich Hill	Dr. Luckey	October 23	1 mule	Suspected glanders	Not affected.

ANNUAL REPORT OF DR. D. E. CRITES, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
John Demberger	Oran	Petition	October 9	Horses	Strangles	Advised treatment.

ANNUAL REPORT OF DR. JAS. CULLISON, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
John A. Bird	Charleston	By phone	November 6	30 cattle	Fever and pneumonia	Prescribed treatment.

ANNUAL REPORT OF DR. G. P. GANT, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
John R. Skinner	Trenton	Application	April 29	19 cattle	Tuberculosis	Quarantined.
Austin Campbell	Trenton	Application	May 26	1 horse	Glanders	Quarantined.
F. A. Kelley	Edinburg	Dr. Sheldon	May 18	1 horse	Ulcerated tooth	Advised treatment.
Arch Rosson	Trenton					

ANNUAL REPORT OF DR. A. D. GLOVER, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Wm. Spath	Lewistown	Application	November 3	10 cattle	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. P. H. GREGORY, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
W. M. Valentine	Matson	Application	July 3	1 horse	Suspected glanders	Dead on arrival.

ANNUAL REPORT OF DR. E. M. HENDY, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
J. R. Enloe	Corticelli	Petition	September 8	2 cows	Ergotism	Prescribed treatment.
Geo. Schaffner						

ANNUAL REPORT OF DR. W. J. HOUSER, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
G. E. St. John	Carthage	Application	February 18	1 cow	Tuberculosis	Quarantined.
H. C. Johns	Carthage	Application	February 18	2 cows	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. J. C. HUMPHREYS, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
J. S. Norvell	Humphreys	T. C. Wilson	January 25	14 horses	Suspected glanders	Quarantined.
J. S. Norvell	Humphreys	T. C. Wilson	January 28	14 horses	Tested for glanders	Released.

ANNUAL REPORT OF DR. E. J. JOHNSTON, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
S. D. Henry	Excelsior Springs	Application	October 23	4 cows	Tuberculosis	Quarantined.
Ford & Winbigler	Excelsior Springs	Application	October 27	2 cows	Tuberculosis	Quarantined.
T. T. Smith	Excelsior Springs	Application	October 27	3 cows	Tuberculosis	Quarantined.
F. J. Flannery	Excelsior Springs	Application	October 29	1 cow	Tuberculosis	Quarantined.
Chas. McKee	Excelsior Springs	Application	November 15	1 cow	Tuberculosis	Quarantined.
O. W. Whaley	Excelsior Springs	Application	October 29	1 cow	Tuberculosis	Quarantined.
E. F. Swinney	Excelsior Springs	Application	November 4	5 cattle	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. A. T. KINSLEY, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
People's Ice Co	Kansas City	Dr. A. Trickett	January 10	1 horse	Glanders	Destroyed.
Depot Transfer Co	Kansas City	Dr. J. S. Hickman	January 13	1 horse	Chronic catarrh	Advised treatment.
Jno. Burns	Louisiana	By phone	January 24	1 mule	Forage poisoning	Advised change of feed.
L. Clark	Greenwood	Dr. Gregg	February 6	1 horse, 1 mule	Glanders	Quarantined.
Willis Robinson	Kansas City	Humane Society	February 5	1 horse	Ulcerated tooth	Advised treatment.
W. O. Goss	Kansas City, en route to Montana	B. A. I. inspectors	February 15	1 horse	Suspected glanders	Quarantined.
Wm. F. Loetel	Independence	Dr. Sheldon	March 4	13 cattle	Suspected tuberculosis	Quarantined.
Fred W. Vilhaner	Kansas City, en route Oklahoma to S. Dakota.	B. A. I. inspectors	March 1	1 horse	Suspected glanders	Quarantined.
S. J. Gabbert	Dearborn	Application	March 6	1 bull	Tuberculosis	Quarantined.
Estate Jas. A. Funkhauser	Plattsburg	Application	March 6	1 cow	Tuberculosis	Quarantined.
Jensen Bros.	Kansas City	B. A. I. inspectors	March 15	1 cow	Suspected tuberculosis	Quarantined.
Wm. F. Loetel	Independence	Return call	March 22	13 cattle	Suspected tuberculosis	Still in quarantine.
A. B. Luther	Independence	By phone	March 24	1 horse	Strangles	Advised treatment.
C. Jones	Kansas City	Dr. Lacroix	April 4	1 horse	Glanders	Destroyed.
Wm. F. Loetel	Independence	Return call	April 7	13 cattle	Suspected tuberculosis	Still in quarantine.
A. McFarland	Chilhowee	Dr. Sheldon	April 11	120 cattle	Hemorrhagic septicaemia	Burned dead ones.
Charley's Transfer Co	Kansas City	Dr. VanDusen	April 21	1 horse	Chronic catarrh	Advised treatment.
F. B. Glover	Grandview	Dr. Sheldon	April 27	2 cows	Tuberculosis	Quarantined.
Luther Dill	Kansas City	Dr. E. L. Young	April 29	1 horse	Glanders	Quarantined.
H. B. Wheeler	Kansas City	B. A. I. inspectors	May 23	1 cow	Suspected tuberculosis	Quarantined.
A. Rose	Kansas City	Application	July 24	1 cow	Suspected tuberculosis	Quarantined.
W. F. Campbell	Kansas City	Dr. Sheldon	July 22	1 cow	Tuberculosis	Quarantined.
W. F. Loetel	Independence	Dr. Sheldon	July 24	4 cows	Tuberculosis	Quarantined.
O. A. Moss	Kansas City	Application	August 11	1 horse	Glanders	Destroyed.
A. Rose	Kansas City	Application	August 14	1 cow	Suspected tuberculosis	Quarantined.
E. P. Stark	Kansas City	By phone	October 3	1 horse	Ulcerated tooth	Advised treatment.
P. Henderson	Kansas City	Dr. S. L. Stewart	October 20	1 horse	Glanders	Destroyed.
H. F. Meyer	Kansas City	Humane Society	November 17	1 horse	Stockyards fever	Advised treatment.
Mrs. Pence	Kansas City	In practice	November 21	1 horse	Scabies	Destroyed.
Jno. Hoover	Hickman Mills	In practice	November 26	2 cows	Tuberculosis	Quarantined.
R. I. Frost	Collins	In practice	December 14	1 cow	Suspected tuberculosis	Quarantined.
O. H. McCandless	Dallas	By phone	December 20	1 horse	Ulcerated tooth	Advised treatment.

ANNUAL REPORT OF DR. G. H. LEACH, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
H. H. Bellows	Maryville	In practice	August 26	1 bull	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. G. W. LEBER, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Fritz Ebker	Rosebud	In practice	April 14	Horses	Forage poisoning	Advised change of water.

ANNUAL REPORT OF DR. W. J. LOPP, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
G. W. Walk	Blue Lick	Dr. Luckey	October 15	30 cattle	Texas fever	Quarantined.
Jesse Karrick	Longwood	Dr. Luckey	October 15	115 cattle	Texas fever	Quarantined.
Wade Martin	Edwards	Petition	October 27	2 horses	Strangles	Prescribed treatment.
Mr. Redmond	Tipton	Dr. Luckey	November 9	1 cow	Rabies	Died.
Ed King W. A. Stuckey	Kingsville	Dr. Luckey	December 1	Hogs	Dead hogs	Ordered burned.
Prof. C. M. Long	Warrensburg	C. M. Long	December 1	Hogs	Cholera	Ordered burned.

ANNUAL REPORT OF DR. R. B. LOVE, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Mr. Dillard	Springfield	Dr. Sheldon	July 12	1 cow	Tuberculosis	Quarantined.
O. E. Allen and others	Hartville	T. C. Wilson	August 14	None	Unknown	
J. W. McClure	Springfield	In practice	August 12	3 cows	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. G. W. McINTYRE, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
I. T. Van Note	Mexico	Application	July	3 cows	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. B. M. MILLER, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Henry Pilgrim	McGirk	Dr. Sheldon	July 20	4 hogs	Tetanus.	

ANNUAL REPORT OF DR. OLIN T. MURPHY, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
J. W. McDermott	Kahoka	Owner	June 5	2 bulls	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. F. W. O'BRIEN, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
	Louisiana	Dr. Sheldon	January 18	4 horses	Cerebritis	Died.
Philip Hallenberg	Hannibal	Application	October 9	1 cow	Tuberculosis	Quarantined.
Frank Cooper	Hannibal	Application	October 10	1 cow	Tuberculosis	Quarantined.
M. Hodgdon	Hannibal	Application	November 15	1 cow	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. W. A. PARKER, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
J. T. Milliken	Crescent	Application	May 14	16 cattle	Tuberculosis	Quarantined.
C. H. Wilcox	Kirkwood	Application	June 20	2 cattle	Tuberculosis	Quarantined.
J. T. Milliken	Crescent	Application	September 19	2 cows	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. G. PARMENTER, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Purdy Bros	Harris	Owner	March 27	1 bull	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. F. W. RUTHERFORD, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
S. W. Cook & Son	Maysville	Owner	July 13	7 cattle	Illegal shipment	Quarantined.

ANNUAL REPORT OF DR. H. J. SEBAUGH, DEPUTY STATE VETERINARIAN

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Jesse H. Williams	Morris Mill	By telegram	February 19	Cattle	Lead poisoning	Change pasture.

ANNUAL REPORT OF DR. J. R. SEIPEL, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Snyder & Son	Van Buren	Dr. Luckey	November 3	1 horse	Petechial fever	Advised treatment.

ANNUAL REPORT OF DR. L. C. SMITH, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
E. L. Ensign	Cameron	Owner	Feb. 12	1 cow	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. W. C. SORBER, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
John Kohlmeyer	St. Louis	In practice	January 3	4 horses	Glanders	Destroyed.
Boemer Bros	St. Louis	In practice	March 10	5 horses	Suspected glanders	Quarantined.
Chas. Starr	St. Louis	In practice	March 21	2 horses	Glanders	Quarantined.
C. A. Lange	St. Louis	In practice	May 8	1 horse	Glanders	Destroyed.
J. T. Feager	St. Louis	In practice	May 13	1 horse	Glanders	Destroyed.
Jno. P. Collins	St. Louis	In practice	May 13	1 horse	Glanders	Destroyed.
John Eichhorn & Son F. & C. Co.	Horine	Application	July 6	20 cows	Tuberculosis	Quarantined.
Joseph Hoffman	St. Louis	In practice	July 10	1 horse	Glanders	Ordered to destroy.

REPORT OF DR. W. C. SORBER—Continued.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Edw. J. Boland	St. Louis	In practice	September 17	1 horse	Glanders	Destroyed.
Tom Viviano	St. Louis	In practice	September 23	1 horse	Glanders	Destroyed.
A. Tyler	St. Louis	In practice	September 29	2 horses	Glanders	Destroyed.
E. A. Lemp	St. Louis	Application		3 cows	Tuberculosis	Destroyed.
R. F. Tesson	Clayton	Dr. Luckey	October 27	19 cows	Tuberculosis	Quarantined.
J. P. Cabanne	Horine	Dr. Luckey	December 22	1 cow	Tuberculosis	Quarantined.
Claes & Lehnbeuter Mfg. Co	St. Louis	In practice	December 28	1 horse	Glanders	Quarantined.
E. F. Rothamel	St. Louis	Dr. Kammerer	December 29	1 horse	Glanders	Destroyed.

ANNUAL REPORT OF DR. H. C. TUCK, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Henry Muse	Garber	Dr. Sheldon	December 23	1 horse	Suspected glanders	Recovered.
J. A. McClernon	Springfield	Application	January 28	1 cow	Tuberculosis	Quarantined.
M. A. McCleur	Springfield	Application	January 29	1 cow	Tuberculosis	Quarantined.
P. J. McClernon	Springfield	Application	February 1	4 cattle	Tuberculosis	Quarantined.
W. F. Briggs	Springfield	Application	February 1	2 cows	Tuberculosis	Quarantined.
J. M. Alexander	Buffalo	Dr. Sheldon	February 4	2 cows	Tuberculosis	Quarantined.
J. W. McCleur	Springfield	Application	February 18	8 cows	Tuberculosis	Quarantined.
W. F. Briggs	Springfield	Return visit	April 4	1 cow	Tuberculosis	Quarantined.
Jas. Buchanan	Springfield	Retest	April 16	1 cow	Tuberculosis	Quarantined.
C. E. Briggs	Seneca	Tick eradication work	June 13	20 cattle	Texas fever	Quarantined.
John Roff	Seneca	Tick eradication work	June 13	18 cattle	Texas fever	Quarantined.
Mrs. M. E. Gaylor	Seneca	Tick eradication work	June 13	3 cattle	Texas fever	Quarantined.
W. L. Locke	Seneca	Tick eradication work	July 3	3 cattle	Texas fever	Quarantined.
Mrs. S. J. Ramsey	Tiff City		July 5	1 cow		Quarantined.
A. P. Adamson	Seneca	Tick eradication work	July 10	3 cattle	Texas fever	Quarantined.
B. B. Jones	Lutie	Tick eradication work	July 31	33 cattle	Texas fever	Quarantined.
C. B. Blankenship	Southwest City	Tick eradication work	August 11	7 cattle	Texas fever	Quarantined.
B. F. Ellison	Protem	Tick eradication work	August 20	85 cattle	Texas fever	Quarantined.

ANNUAL REPORT OF DR. H. C. TUCK—Continued.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
O. S. Hart	Dugginsville	Tick eradication work	August 22	32 cattle	Texas fever	Quarantined.
Lewis Rice	Seneca	Tick eradication work	August 27	4 cattle	Texas fever	Quarantined.
Wm. Tidwell	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
C. E Hankins	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
L. Meredith	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
J. S. Meredith	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
R. E. Chaney	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
T. J. Collins	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
W. M. Aldrich	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
E. A. Shrum	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
S. A. Igo	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
J. M. Melson	Protem	Tick eradication work	September 13	Cattle	Texas fever	Notice to dip.
G. W. Davis	Cedar Creek	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
Steve Martin	Cedar Creek	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
J. W. Rhodes	Cedar Creek	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
W. C. Carpenter	Cedar Creek	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
C. L. Williams	Protem	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
J. C. Bowles	Cedar Creek	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
Wies Collins	Protem	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
Mart O'Niel	Protem	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
Richard Hawkins	Protem	Tick eradication work	September 15	Cattle	Texas fever	Notice to dip.
Jos. Weiss	Seneca	Tick eradication work	July 25	10 cattle	None	Released from quarantine.
J. B. Pollan	Southwest City	Tick eradication work	February 15	4 cattle	None	Released from quarantine.
E. L. Long	Dugginsville	Tick eradication work	September 18	8 cattle	Texas fever	Quarantined.
J. C. Johnson	Dugginsville	Tick eradication work	September 18	19 cattle	Texas fever	Quarantined.
A. J. Turnbo & Son	Pontiac	Tick eradication work	September 18	Cattle	Texas fever	Quarantined.
E. J. Schofield	Theodosia	Tick eradication work	September 18	Cattle	Texas fever	Quarantined.
J. A. Nave	Pontiac	Tick eradication work	September 18	44 cattle	Texas fever	Quarantined.
Walter Tucker	Seneca	Tick eradication work	September 18	10 cattle	Texas fever	Quarantined.
W. T. Herd	Dugginsville	Tick eradication work	September 19	3 cattle	Texas fever	Quarantined.
S. P. Hart	Dugginsville	Tick eradication work	September 19	Cattle	Texas fever	Quarantined.
F. M. Smith & Son	Pontiac	Tick eradication work	September 19	Cattle	Texas fever	Quarantined.
Sam Martin	Lutie	Tick eradication work	September 19	Cattle	Texas fever	Quarantined
S. Meredith	Protem	Tick eradication work	September 25	Cattle	Texas fever	Quarantined.

ANNUAL REPORT OF DR. H. C. TUCK—Continued.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
J. P. Merker	Oronogo	Tick eradication work	October 28	17 cattle	Texas fever	Quarantined.
W. H. Simpson	Oronogo	Tick eradication work	October 28	26 cattle	Texas fever	Quarantined.
E. W. Kuhn, Jr	Seneca	Tick eradication work	November 9	21 cattle	Texas fever	Quarantined.
Mat C. Murdock	Seneca	Tick eradication work	November 22	Feed lots	Texas fever	Quarantined.
F. M. Lauderdale	Southwest City	Tick eradication work	November 28	17 cattle	Texas fever	Quarantined.
R. A. Miller	Tiff City	Tick eradication work	February 15	4 cattle	None	Released from quarantine.
J. E. Stoge	Joplin	Tick eradication work	July 13	12 cattle	None	Released from quarantine.
G. B. Durham	Seneca	Tick eradication work	July 25	3 cattle	None	Released from quarantine.
Mary Kellog	Seneca	Tick eradication work	August 13	6 cattle	None	Released from quarantine.
J. A. Roark	Seneca	Tick eradication work	August 13	17 cattle	None	Released from quarantine.
Jos. E. Kert	Seneca	Tick eradication work	August 13	5 cattle	None	Released from quarantine.
A. J. Oliver	Southwest City	Tick eradication work	August 14	5 cattle	None	Released from quarantine.
G. B. Rose	Southwest City	Tick eradication work	August 28	50 cattle	None	Released from quarantine.
W. C. Hardy	Southwest City	Tick eradication work	August 28	2 cattle	None	Released from quarantine.
B. Yocum	Seneca	Tick eradication work	August 28	4 cattle	None	Released from quarantine.
M. M. Brown	Cassville	Tick eradication work	October 24	16 cattle	None	Released from quarantine.
J. B. Pollan	Southwest City	Tick eradication work	October 6	1 cattle	None	Released from quarantine.
W. L. Evans	Southwest City	Tick eradication work	October 6	66 cattle	None	Released from quarantine.
M. M. Brown	Cassville	Tick eradication work	November 10	14 cattle	None	Released from quarantine.
W. A. Craig	Cassville	Tick eradication work	November 10	19 cattle	None	Released from quarantine.
S. H. Zirkle	Seneca	Tick eradication work	November 24	19 cattle	None	Released from quarantine.

ANNUAL REPORT OF DR. H. C. UTLEY, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Otis Mack	Trenton		February 27	1 bull	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. E. B. WARD, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Julius Hanback	Fulton	Dr. Sheldon	February 9	450 sheep	Scabies	Ordered dipped.

ANNUAL REPORT OF DR. H. C. WARD, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
W. H. Gray	Springfield	Application	January 11	1 cow	Tuberculosis	Quarantined.
S. G. Massey	Springfield	Application	January 17	1 cow	Tuberculosis	Quarantined.
G. Creighton	Springfield	Application	January 20	1 bull	Tuberculosis	Quarantined.
F. F. Harris	Springfield	Application	January 31	1 cow	Tuberculosis	Quarantined.
W. B. French	Springfield	Application	January 31	1 cow	Tuberculosis	Quarantined.
W. H. Bates	Niangua	Application	February 10	1 cow	Tuberculosis	Quarantined.
J. C. Baxter	Springfield	Application	February 13	4 cows	Tuberculosis	Quarantined.
L. L. Fellows	Springfield	Application	February 19	1 cow	Tuberculosis	Quarantined.
H. T. Woods	Springfield	Application	February 19	10 cows	Tuberculosis	Quarantined.
H. D. Dillard	Springfield	Application	April 15	1 cow	Tuberculosis	Quarantined.
F. F. Harris	Springfield	Application	April 15	2 cows	Tuberculosis	Quarantined.
G. D. Lisenby	Springfield	Application	April 18	1 cow	Tuberculosis	Quarantined.
W. H. Kohr	Mexico	Application	April 28	1 cow	Tuberculosis	Quarantined.
W. E. Sharp	Mexico	Application	April 28	1 cow	Tuberculosis	Quarantined.
H. T. Woods	Springfield	Application	April 28	6 cows	Tuberculosis	Quarantined.
Chas. Knoop	Cameron	Application	May 23	6 cows	Tuberculosis	Quarantined.
Frank Ford	Cameron	Application	May 27	1 cow	Tuberculosis	Quarantined.
S. E. Hutton	Cameron	Application	May 28	6 cows	Tuberculosis	Quarantined.
Mr. Parks	Winston	Dr. James	May 30	1 mule	Glanders	Destroyed.
Geo. Schonk	Cameron	By request	May 30	1 horse	Chronic nasal catarrh	Advised treatment.
McComb & McGuire	Cameron	Application	May 31	5 cattle	Tuberculosis	Quarantined.
Ward Sisters	Stewartsville	Application	June 2	5 cattle	Tuberculosis	Quarantined.
Arnold Frowein	Independence	Application	June 9	13 cattle	Tuberculosis	Quarantined.
I. T. VanNote	Mexico	Application	June 18	25 cattle	Tuberculosis	Quarantined.
Fry & Black	Mexico	Application	June 23	3 cattle	Tuberculosis	Quarantined.
W. A. Paullin	Mexico	Application	June 25	1 cow	Tuberculosis	Quarantined.
A. H. Shepard	Columbia	Application	July 23	24 cattle	Tuberculosis	Quarantined.

ANNUAL REPORT OF DR. F. A. WOLFE, DEPUTY STATE VETERINARIAN

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Wm. P. Gooch	Browning	Dr. Luckey	December 2	4 horses	Glanders	Quarantined.
Wm. P. Gooch	Browning	Dr. Luckey	October 2	1 horse	Glanders	Quarantined.

ANNUAL REPORT OF DR. J. K. WOODS, DEPUTY STATE VETERINARIAN.

Owner.	Postoffice.	How called.	Date.	Kind of stock.	Disease.	How disposed of.
Henry Hoffman	Hughesville	Hog cholera eradication	November 11	Hogs	Cholera	Quarantined.
E. A. Bennett	Green Ridge	Hog cholera eradication	November 13	Hogs	Cholera	Quarantined.
J. W. Johnson	Lamonte	Hog cholera eradication	November 15	55 hogs	Cholera	Quarantined.
J. W. Ramey	Hughesville	Hog cholera eradication	November 15	Hogs	Cholera	Quarantined.
Wm. A. McKeehan	Lamonte	Hog cholera eradication	November 15	Hog pens	Cholera	Quarantined.
Geo. Boyer	Lamonte	Hog cholera eradication	November 15	Barn and lot	Cholera	Quarantined.
Frank Voigt	Lamonte	Hog cholera eradication	November 15	Straw stack	Cholera	Quarantined
Elias Smith	Houstonia	Hog cholera eradication	November 15	Pens	Cholera	Quarantined.
J. B. Vanhoak	Houstonia	Hog cholera eradication	November 15	Lot and pens	Cholera	Quarantined.
J. W. Housbro	Lamonte	Hog cholera eradication	November 19	9 hogs	Cholera	Quarantined.
Jeff Drake	Dresden	Hog cholera eradication	November 21	13 hogs	Cholera	Quarantined.
W. C. Harding	Hughesville	Hog cholera eradication	November 24	14 hogs	Cholera	Quarantined.
Grover McClure	Houstonia	Hog cholera eradication	December 2	3 hogs	Cholera	Quarantined.
Herman Reakin	Houstonia	Hog cholera eradication	December 2	2 hogs	Cholera	Quarantined.
Wm. Thomas	Dunksberg	Hog cholera eradication	December 2	1 hog	Cholera	Quarantined.
H. C. Meyers	Sweet Springs	Hog cholera eradication	December 2	Hogs	Cholera	Quarantined.
Fritz Voigt	Sweet Springs	Hog cholera eradication	December 2	1 hog	Cholera	Quarantined.
R. C. Rhodes	Sweet Springs	Hog cholera eradication	December 2	1 hog	Cholera	Quarantined.
J. R. Smith	Sweet Springs	Hog cholera eradication	December 2	1 hog	Cholera	Quarantined.
J. E. Sewell	Lamonte	Hog cholera eradication	December 2	1 hog	Cholera	Quarantined.
J. W. Wicker	Houstonia	Hog cholera eradication	December 2	4 hogs	Cholera	Quarantined.
W. A. Claycomb	Thornleigh	Hog cholera eradication	December 8	168 hogs	Cholera	Quarantined.
Orville Horine	Houstonia	Hog cholera eradication	December 12	1 hog	Cholera	Quarantined.

LIVE STOCK SHIPMENTS FROM MISSOURI.

(D. F. Luckey, State Veterinarian.)

Number of horses and cattle shipped from Missouri into other states and countries during the year 1913, under official inspection.

	States.	*Horses.	Cattle.	Total.	Number of shipments.
1	Alabama	1,060	10	1,070	45
2	Arizona	14	29	43	6
3	Arkansas	2,156	127	2,283	212
4	California	115	84	199	17
5	Colorado	113	408	521	58
6	Delaware		28	28	1
7	Florida	6		6	2
8	Georgia	135		135	5
9	Idaho	62	156	218	25
10	Illinois	25	198	223	22
11	Indiana	22	25	47	11
12	Iowa	533	445	978	193
13	Kansas	575	483	1,058	235
14	Kentucky	46	13	59	8
15	Louisiana	365	2	367	20
16	Maryland	9		9	1
17	Michigan	11	34	45	3
18	Minnesota	67	27	94	20
19	Mississippi	539		539	26
20	Montana	367	267	634	83
21	Nebraska	361	189	550	115
22	Nevada		19	19	3
23	New Jersey	26		26	1
24	New Mexico	77	94	171	20
25	New York	10		10	2
26	North Carolina	186	9	195	10
27	North Dakota	35	19	54	10
28	Ohio	110	27	137	8
29	Oklahoma	612	181	793	138
30	Oregon	17	62	79	15
31	Pennsylvania	34	31	65	3
32	South Carolina	240	1	241	12
33	South Dakota	91	32	123	25
34	Tennessee	216	44	260	11
35	Texas	1,327	253	1,580	130
36	Utah	3	48	51	4
37	Virginia	1		1	1
38	Washington	16	42	58	7
39	West Virginia		1	1	1
40	Wisconsin	20	21	41	12
41	Wyoming	91	311	402	26
42	Canada	7	51	58	4
43	South Africa	1		1	1
	Totals	9,712	3,760	13,472	1,552

*For convenience in tabulating, mules have been classified as horses.

Five thousand one hundred and twenty-four hogs were inspected for shipment from Missouri to other states, making a total of 18,596 animals shipped out of the State during the year 1913, under inspection.

N. B.—This record does not include horses and mules that went out of the State through the public markets at East St. Louis.

LIVE STOCK SHIPMENTS INTO MISSOURI.

Records of the inspection of horses and cattle shipped from other states into Missouri that have been filed with the State Veterinarian during the year 1913.

	States.	*Horses.	Cattle.	Total.	Number of shipments.
1	Arkansas	64	205	269	29
2	California	2	....	2	1
3	Colorado	6	6	12	4
4	Connecticut	....	1	1	1
5	Illinois	137	137	274	57
6	Indiana	....	2	2	1
7	Iowa	217	388	605	134
8	Kansas	178	380	558	96
9	Kentucky	17	30	47	3
10	Louisiana	33	5	38	13
11	Minnesota	19	13	32	4
12	Montana	62	....	62	3
13	Nebraska	404	164	568	77
14	Oklahoma	635	200	835	108
15	Oregon	6	....	6	1
16	South Dakota	39	6	45	8
17	Tennessee	16	389	405	14
18	Texas	259	85	344	26
19	Wisconsin	....	92	92	10
20	Wyoming	14	....	14	2
	Totals	2,008	2,103	4,211	592

*For convenience in tabulating, mules have been classified as horses.

TOTALS ON TUBERCULIN TEST WORK FOR 1913.

Number of healthy cattle tested and tagged by State	11,846	
*Number of healthy cattle tested by Government	4,500	
Total		16,346
Number of cattle condemned by State	339	
Number of cattle reported condemned by Government	21	
Total		360
Number of healthy cattle tested and not tagged by State	....	2,038
Total number of cattle, diseased and healthy, tested by State and Government	....	18,744
Hogs vaccinated and shipped from the St. Joseph yards	....	5,269

*Approximate.

Two hundred and seventy-nine thousand nine hundred and seventeen cattle were shipped or driven into Missouri during the year 1913 on affidavit that they would be used for pasturing, feeding or immediate slaughter and not for dairy or breeding purposes, and were admitted without the tuberculin test. There were 6,706 permits issued for these cattle.

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